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**Vol. II**

**TRANSCRIPT OF RECORD**

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**Supreme Court of the United States**

**OCTOBER TERM, 1942**

**No. 721**

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**THE NORTH AMERICAN COMPANY, PETITIONER,**

*vs.*

**SECURITIES AND EXCHANGE COMMISSION**

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**ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT  
OF APPEALS FOR THE SECOND CIRCUIT**

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**PETITION FOR CERTIORARI FILED FEBRUARY 10, 1943.**

**CERTIORARI GRANTED MARCH 1, 1943.**

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**United States Circuit Court of Appeals**

FOR THE SECOND CIRCUIT

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October Term, No. \_\_\_\_\_  
\_\_\_\_\_

THE NORTH AMERICAN COMPANY,

*Petitioner,*

v.

SECURITIES AND EXCHANGE COMMISSION,

*Respondent.*

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**TRANSCRIPT OF RECORD**

**TESTIMONY**

**Volume II**

**(Pages 219 to 668)**

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ON PETITIONS FOR REVIEW OF ORDERS OF SECURITIES  
AND EXCHANGE COMMISSION

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BEFORE THE  
**Securities and Exchange Commission**  
File 59-10

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IN THE MATTER  
of  
THE NORTH AMERICAN COMPANY AND  
ITS SUBSIDIARY COMPANIES.

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656

Hearing Room 1102,  
Securities and Exchange Commis-  
sion Building,  
Washington, D. C.,  
Friday, June 7, 1940.

Met, pursuant to notice, at 10 o'clock a. m.

Before: WILLIAM W. SWIFT, *Trial Examiner*.

657

Appearances:

RALPH C. BINFORD, ESQ., appearing on behalf of the Securities and Exchange Commission.

JOHN C. BRUTON, JR., and

CHARLES S. HAMILTON, JR., of Sullivan and Cromwell,  
New York, N. Y., for respondent.

LLOYD B. HARRIS, ESQ., appearing on behalf of the Public  
Utilities Commission of the District of Columbia.

## PROCEEDINGS.

The Examiner: This hearing ordered to be convened pursuant to Section 11(b)(1) of the Public Utility Holding Company Act of 1935, is now convened.

Have the appearances of the parties been entered?

Mr. Binford: Ralph C. Binford for the Commission.

Mr. Bruton: Sullivan & Cromwell by John C. Bruton, Jr. and Charles S. Hamilton, Jr., for the respondent, the  
659 North American Company and subsidiaries.

The Examiner: At this point I would like to make inquiry if there is any member of the public present this morning desiring to be heard, any investor, any consumer, or any representative of any public utilities commission; if so, you will make yourself known.

Mr. Harris: Lloyd B. Harris. I represent the Public Utilities Commission of the District of Columbia. We have filed a petition for intervention and were granted the right to intervene in this proceeding. I am associated with Elwood H. Seal, General Counsel for the Public Utilities Com-  
660 mission.

The Examiner: Very well, the record will show that appearance. The record will also show that with that exception no other person has answered my inquiry.

Now, what have you to present first, gentlemen?

Mr. Binford: Mr. Examiner, this proceeding is one under

—2—

Section 11(b)(1) of the Public Utility Holding Company Act of 1935, directed against the North American Company, a registered holding company, and its subsidiaries.

Numerous answers have been filed and also certain petitions for intervention.

The hearing was originally set for an earlier date, but by order of the Commission it was set at this date and this hour.

I understand, however, that the principal respondent, the North American Company, has a motion relative to a continuance of the hearing to present at this time, before we proceed with the substance of the hearing.

Mr. Bruton: Mr. Examiner, in response to Mr. Binford's statement, there is now pending before the Commission a motion by the respondent that this proceeding be adjourned subject to the further order of the Commission and that the proceeding be held in abeyance. 662

The grounds upon which that motion is based are fully stated in the motion. A brief accompanying the motion and in support thereof has also been filed with the Secretary of the Commission.

I suggest that it would be improper to continue with the hearing until the motion has been passed upon by the Commission and I suggest therefore that the hearing at this 663

—3—

time be adjourned subject to the determination by the Commission on the motion which I have referred to.

Mr. Binford: Mr. Examiner, this motion was not filed until this morning and it was accompanied by a written brief. Counsel for the Commission is not authorized at this time to consent to a continuance or postponement of this hearing beyond this date. However, I would be willing to consent to and would request the examiner for a recess at this time until 2 o'clock this afternoon in order that the fil-

664

*Colloquy*

ing of this motion and brief might be made known to the Commission, and, if they see fit, authority granted to me to consent to a further adjournment to a definite date or until the motion has been fully considered and passed upon.

I therefore suggest we recess, if it pleases the Examiner and counsel, until 2 o'clock this afternoon.

The Examiner: Off the record.

(Discussion off the record.)

665

Mr. Bruton: I object to the request made by Mr. Binford that the hearing be adjourned only until 2 o'clock and I renew my request that the hearing be adjourned at this time subject to the action by the Commission on the motion which I have referred to.

The Examiner: I do not feel justified in granting the

—4—

666

whole of your application. I think in fact the Commission will have to act on your motion for the continuance and I think that we should recess this matter until 12 o'clock in order that some word may be had from the Commission as to just what action we shall take with respect to your motion.

I therefore recess this matter until 12 o'clock.

Mr. Bruton: I respectfully except to the ruling.

The Examiner: The record will note the exception.

(Thereupon, at 10:15 o'clock a.m., a recess was taken until 12 o'clock noon.)

1

*Colloquy*

667

## AFTER RECESS.

Met, pursuant to the taking of the recess, at 12 o'clock noon.

The Examiner: The hearing will be resumed.

Since the recess was taken I have word from the Commission that the motion filed by North American Company for an indefinite adjournment was denied by the Commission. The Commission, however, authorized an adjournment of the hearing for a period of two weeks until June 21, 1940, at 10 o'clock a. m.

668

Mr. Bruton: I wish formally to record an exception to the ruling of the Commission and to reserve the right to request a re-hearing on the motion.

—5—

The Examiner: Very well, your exception and request will be noted in the record.

Mr. Bruton: I also wish to reserve the right to request oral argument before the Commission on the motion, if that may be done in connection with any request for rehearing—

669

The Examiner: I suggest, Mr. Bruton, you put that in the form of writing to the Commission and the Commission will act on that request when it comes in.

Mr. Bruton: I am not making any request at the present time, Mr. Examiner; I am merely reserving formally the right to make such request if it should be deemed desirable.

The Examiner: The record will show the reservation you are making.

670

*Colloquy*

If there is nothing else, this matter is now continued until 10 o'clock a. m., June 21, 1940.

(Thereupon, at 12:10 o'clock p. m., the hearing was adjourned, until June 21, 1940, at 10 o'clock a. m.)

—6—

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BEFORE THE

**Securities and Exchange Commission**

File 59-10

673

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IN THE MATTER

of

THE NORTH AMERICAN COMPANY AND  
ITS SUBSIDIARY COMPANIES.

674

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Hearing Room 1102-A,  
Securities and Exchange Commis-  
sion Building,  
Washington, D. C.,  
Friday, June 21, 1940.

Met, pursuant to adjournment, at 10 o'clock a. m.

Before: WILLIAM W. SWIFT, *Trial Examiner*.

675

## Appearances:

RALPH C. BINFORD, Esq., appearing on behalf of the Securi-  
ties and Exchange Commission.S. PEARCE BROWNING, Esq., JOHN J. BRUTON, JR., Esq.,  
and CHARLES S. HAMILTON, JR., Esq., of Sullivan and  
Cromwell, New York, N. Y., appearing on behalf of the  
respondent.

-7-



676

*Colloquy*

## PROCEEDINGS

The Examiner: The hearing will be resumed. I believe Mr. Browning has joined counsel representing the North American Company and its subsidiary companies since the last hearing which was held on June 7th. .

Mr. Browning: That is correct.

677 The Examiner: The record will show that. Now at the last session on June 7th I made inquiry if any member of the public was present desiring to be heard and I believe there was one response to that, an intervention by the Public Service Commission of Washington.

Are there any other parties here this morning desiring to be heard? (After a pause.) I hear no response and the record will so show.

All right, gentlemen, you may proceed.

678 Mr. Binford: Mr. Examiner, I would like to state at this time that a motion for dismissal of this proceeding was filed on the 18th by the respondent, the North American Company, and that motion was denied yesterday, the 20th, by the Commission.

Later during the day I will offer in evidence a copy of that motion and a copy of the order denying the same.

Mr. Browning: And we would like to have the record show we have an exception to that order of the Commission, Mr. Examiner.

—8—

The Examiner: Yes, the record will note your exception.

Mr. Binford: The nature of this proceeding was stated to the Examiner at the first hearing.

*Colloquy*

679

At this time I offer in evidence as Commission's Exhibit No. 1 in evidence a notice and order for hearing entered March 8, 1940, constituting Holding Company Act Release No. 1960, dated March 9, 1940.

That portion of this order which is particularly designated as a notice in the body of the order was published in the Federal Register, Volume V, No. 49, page 1026, on Tuesday, March 12, 1940, which I have verified by personal inspection of the Federal Register of that date.

Mr. Browning: No objection.

680

The Examiner: The order referred to is received as Commission's Exhibit No. 1.

(The document referred to was marked Commission's Exhibit No. 1 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 2 I offer in evidence Holding Company Act Release No. 1959 which likewise recites the institution of the proceeding and which was released to the press by this Commission.

The Examiner: Let that come in as Commission's Exhibit No. 2.

681

Mr. Browning: No objection.

—9—

(The document referred to was marked Commission's Exhibit No. 2 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 3 I offer in evidence certain United States registered mail return receipts which are filed in and attached to the original docket in this case and which are numbers 977,000 to 977,028 in-

682

*Colloquy*

clusive, and numbers 977,926 to 977,999 inclusive, except numbers 977,982, 977,983 and 977,984, and as to the last three numbered registered mail articles which were addressed to Wisconsin General Railway Company, Motor Transport Company and Badger Auto Service Company, respectively, in care of their immediate parent, Wisconsin Electric Power Company.

683

I offer in evidence envelopes likewise incorporated in the original record showing the same to have been returned, all for the purpose of showing notice to the parties to this proceeding.

The Examiner: Is there any objection to these letters and the postal receipts being introduced?

Mr. Browning: No objection whatever, Mr. Examiner, except that I wonder as to the necessity of burdening the record with them. Would it meet Mr. Binford's purposes if we stated for the purposes of the record that each respondent had received such notice of the hearing, of the proceeding rather.

—10—

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Mr. Binford: Do you make that as counsel for all respondents?

Mr. Browning: Yes.

Mr. Binford: That would be perfectly acceptable to me, in which case I withdraw the proffered exhibit in view of the stipulation.

The Examiner: All right, the stipulation will be noted.

Mr. Binford: At this time I would like to stipulate with counsel that all documents which are part of the official files of the Commission may remain attached to those files and not be attached to nor copied into this particular record.

*Colloquy*

685

That is to say all such documents which are introduced and received in evidence, and in the event of court review certified copies or photostatic copies may be used in lieu of the originals. Is that satisfactory?

Mr. Browning: No objection.

The Examiner: Very well, that stipulation, as you gentlemen have stated it, will be noted and followed.

Mr. Binford: As Commission's Exhibit No. 3 I offer in evidence an order of the Commission of April 17, 1940, deferring the hearing in this matter from the date originally set to June 7, 1940, which order as I have verified by personal inspection was published in Federal Register Volume V, No. 77, page 1458 on Friday, April 19, 1940. This is a part of

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—11—

the original docket in this case.

The Examiner: That order is received as Commission's Exhibit No. 3.

(The document referred to was marked Commission's Exhibit No. 3 and received in evidence.)

687

Mr. Binford: As Commission's Exhibit No. 4, I offer in evidence Holding Company Act Release No. 2018 released to the press by this Commission under date of April 18, 1940, giving notice of the postponement of the hearing as originally set.

The Examiner: That is received as Commission's Exhibit 4.

(The document referred to was marked Commission's Exhibit No. 4 and received in evidence.)

*Colloquy*

Mr. Binford: In making that offer I wish to restrict the offer to the first two full paragraphs of the notice since the remainder of the notice of press release refers to other matters.

The Examiner: Very well. This release is received only in so far as it concerns matters involved in this hearing.

Mr. Binford: As Commission's Exhibit No. 5, I offer in evidence a letter purporting to be accompanied by a copy of the original notice and order for hearing entered in this  
689 case with an attached memorandum showing the names of

—12—

certain public regulatory bodies and mayors of certain cities as to whom notice and the covering letter were mailed, together with an endorsement on the memorandum and the letter showing the mailing of the same.

I understand that counsel for the respondents will stipulate that in the letters as mailed a copy of the notice and order was included.

Mr. Browning: That is correct.

The Examiner: All right, the letter with the memorandum is received as Commission's Exhibit No. 5.  
690

(The document referred to was marked Commission's Exhibit No. 5 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 6 I offer in evidence original order of the Commission dated June 5, 1940 designating the Trial Examiner presently presiding in this matter.

Mr. Browning: No objection.

The Examiner: That order is received as Commission's Exhibit No. 6.

*Colloquy*

691

(The document referred to was marked Commission's Exhibit No. 6 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 7 I offer in evidence the original order of the Commission dated June 7, 1940 denying a certain motion filed on behalf of the re-

—13—

spondent, the North American Company, but adjourning the hearing set for that day in this matter to the present date.

Mr. Browning: No objection. Of course it is of record that we have an exception.

692

The Examiner: Yes; that is already of record, but it is well to get it in here, I think.

The order is received as Commission's Exhibit No. 7.

(The document referred to was marked Commission's Exhibit No. 7 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 8 I offer in evidence the caption and last paragraph of Holding Company Act Release No. 2097 which was released to the press by this Commission under date of June 7, 1940, and which gives public notice of the deferring of the hearing set for that date to the present date.

693

The Examiner: That particular part of Release 2097 is received as Commission's Exhibit No. 8.

(The document referred to was marked Commission's Exhibit No. 8 and received in evidence.)

Mr. Binford: Mr. Examiner, at this point counsel for the Commission proposes to offer in evidence certain dockets of



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*Colloquy*

the Commission consisting of data filed by the respondent, the North American Company, and by subsidiaries of that company which are also respondents in this proceeding.

—14—

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In offering these exhibits counsel for the Commission does not vouch for the accuracy of any particular statements therein contained, but does vouch for the fact the dockets so introduced are part of the original files of the Commission and were filed with the Commission by the parties indicated in the text of the respective exhibits all of whom are parties to this proceeding.

These dockets present a general factual survey of the North American Holding Company System, including the sub-holding company systems within that System. It is recognized the data contained in these reports may vary in the degree of its relevancy to the issues here involved.

696

While counsel for the Commission takes the position that all the matter contained in these dockets is relevant to the broad issues presented in this proceeding, yet we are willing to stipulate that any party to this proceeding may at any appropriate time during the course of the proceeding object to the materiality or relevance of any particular portions of these exhibits.

Counsel for the Commission is willing to stipulate further that in the event of any appeal from any order of the Commission or in the event of court review there may be omitted from the record such portions of these dockets as may be immaterial or may be determined to be immaterial by the Examiner or the Commission.

—15—

These dockets comprise the so-called U5B or registration statements filed by the North American Company.

Included in each U5B docket as the first instrument in each case is the notice of registration by each particular holding company registered under the Act with this Commission, and thereby becoming a registered holding company.

The additional dockets comprise the so-called U5S statements which are statements filed annually with the Commission to bring up to date the information contained in the original registration statement.

Now these dockets, as the Examiner may see, are very voluminous. I would like to state as briefly as I can the general contents so that the relevancy may be determined.

The Examiner: Before you get to a description of the contents let us see if the respondents are willing to stipulate with you about the introduction of these documents.

Don't you think that it is well to see if they care to agree to your stipulation?

Mr. Browning: We would like to be heard on that point, Mr. Examiner.

The Examiner: All right.

Mr. Hamilton: Mr. Examiner, we object to the manner in which the exhibits are to be offered. It seems to me to be an unheard of principle that a party to a proceeding can offer exhibits without being bound by the recitals in them.

—16—

If the Commission wants to take the time to sit down and examine these exhibits and determine now what portions are deemed relevant and what portions they wish to rely on, we will be glad to sit down with Commission counsel and go through the entire collection of volumes, but it seems highly



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*Colloquy*

improper to us that the exhibits should be offered with a complete reservation on the part of Commission's counsel that he is not bound by the exhibits which he himself is offering even though he has stated that any party may subsequently object to the relevancy of any portion of the exhibits offered.

It seems to me that is entirely improper procedure.

The Examiner: We will go off the record at this point.

(Discussion off the record.)

701

The Examiner: On the record.

Mr. Browning: Since there may be some misunderstanding of the Commission's position we request that counsel for the Commission restate the Commission's position regarding these exhibits which are to be offered.

Mr. Binford: In the first place of course the position I am stating is the position of counsel for the Commission and not a determination of the Commission itself. It is my position in this particular case—

—17—

702

Mr. Browning (interposing): Will you read that statement of Mr. Binford's?

(The reporter thereupon read the statement as recorded.)

Mr. Browning: It isn't your personal view. You are presenting the case for the Commission and you are offering the exhibits for the Commission.

Mr. Binford: Yes, but my position is as attorney and not as Trial Examiner and I am not making the determina-

tion of the Commission of what the ultimate conclusion will be.

Mr. Browning: Yes.

Mr. Binford: As I endeavored to state before the position of counsel for the Commission in respect to these dockets which I have described which I propose in a few moments to offer in evidence is that every item of information set forth in the dockets is relevant and material, possibly to varying degrees, in the determination of the issues in this case, which are very broad.

704

Failure of opposing counsel to object at this time to any particular items will not be used by counsel for the Commission at a later and appropriate time during the course of the proceedings——

The Examiner (interposing): Or considered as a waiver.

—18—

Mr. Binford: Or considered as a waiver of the right to object or move to strike any of the material contained and which may be so received in evidence.

I also stated while counsel for the Commission vouched for the fact that these are official public documents on file with this Commission and further vouched for the fact that they were filed with the Commission by the persons by whom they purport to have been filed all of whom are parties to this case, we can not vouch for the accuracy of the particular individual statements made by these parties who are present or represented.

705

We vouch merely for the official character of the instrument and for the persons by whom they were filed and we assert their relevancy and materiality. Does that satisfy counsel?

706

*Colloquy*

Mr. Browning: I should like to make a further statement regarding the understanding, first as to the question of relevancy and materiality we understand that the Commission is offering these exhibits in their entirety and that counsel for the respondents are offered an opportunity to object subsequently to the relevancy or materiality.

Mr. Binford: These dockets will not be offered in their entirety. They will be offered separately as to particular documents which, however, may consist of several volumes.

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—19—

Mr. Browning: I meant, Mr. Binford, the items which you did offer. I do not see that we have any objection on that score provided that we have a reasonable time to examine the documents offered as to their relevancy so that we will know what the Commission's case is. I do not want to get ahead of Mr. Binford on his own case, but if he intends to rest after offering these statistical exhibits I submit that we should have a reasonable opportunity to consider the exhibits which have been offered.

708

For example, Mr. Examiner, if we feel we wish to make a motion to dismiss after the Commission rests we must necessarily as a preliminary step go over the Commission's case very carefully.

Accordingly, I submit that as to the first point we are entitled to a reasonable time to go over the material which is offered this morning.

The Examiner: Have you any objection to that, Mr. Binford?

Mr. Binford: I think that that is a little premature. After these instruments are offered in evidence then the

question of examination might be brought up, or the question of a recess for a reasonable length of time.

Incidentally I might point out all this material was furnished by the respondents and none was furnished by the Commission.

—20—

The Examiner: If this is received under the statement that you have made in offering it I think the respondents ought to have a reasonable time to examine it thoroughly and interpose any objections as to the relevancy and the competency of it.

710

Mr. Binford: I made no limitation in my statement.

The Examiner: I didn't understand you to.

Mr. Browning: If I may say something there, Mr. Examiner, perhaps Mr. Binford is right that since he gives us all the time we want in effect to make any objections as to relevancy, that the question at the close of his case as to how much time we would require to go over his case should be taken up then.

I think I can agree with him on that point.

As to the second question presented, the so-called vouching for the exhibits, in general, when a party offers evidence he offers it either for all purposes or the truth of the facts therein stated or he makes a more limited offer to show his adverse state of mind, in which case he may not be bound by the facts therein stated.

711

As I understand this offer, the exhibits are offered for the facts therein stated and we submit that they must be offered without any reservations as to the exhibits themselves.

712

*Colloquy*

This is a question of law as to which we could file a brief subsequently with the ~~Examiner~~, but I can refer imme-

—21—

diately to one case. That is the case of Snell Isle versus the Commissioner of Internal Revenue, 90 Federal (2nd) 481 (1937), in which the court states the general rule to be that the party introducing a document in evidence is bound by its recitals for all purposes.

Accordingly, we submit that the offer should be for all  
713 purposes.

The Examiner: Have you any further comment to make, Mr. Binford?

Mr. Binford: Yes, I have. I think I ought to refer very briefly for the sake of the record to the general contents and general things shown by these dockets.

The Examiner: Now the question that we are immediately concerned with is whether these documents could be received without reservation.

Mr. Binford: There is no motion or exception or objection presently pending before the Examiner.

714 The Examiner: There was one just made by Mr. Browning.

Mr. Binford: It was merely a comment on the method of presentation.

The Examiner: I interpreted it as an objection.

Mr. Binford: I have made no offer as yet.

The Examiner: You propose to offer it and I think that is the clear import of your position.

Mr. Binford: Before I do that I would like to conclude

—22—

my statement as to what I am going to offer, if I may.

*Colloquy*

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The Examiner: All right, you may do that.

Mr. Binford: I make this statement for the sake of having a brief summary in the record.

The U5B dockets which contain as the first instrument, as I have said before, the signed registration and notice of registration of the holding company filing the report whereby it becomes a registered holding company, then the U5B contains general descriptive matter relative to the system.

The first three items identify the company filing the statement and accounting officer filing the statement.

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Item 4 is a list of the companies in the system showing the type of their organization, state of organization and type of business they are in.

Item 5, there appears a brief description of the general character of the business of the companies in the system. This item includes a map showing service areas and their extension across state boundaries of direct public utility subsidiary companies; list of companies outside the system from whom electricity is purchased and/or with whom electric current is interchanged; a list of companies from whom gas is purchased; a tabulation of volume of electric energy and gas transactions of the so-called public utility subsidiary

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—23—

companies; number of communities served retail and wholesale; estimate of the aggregate population of communities receiving service from the so-called public utility subsidiaries.

When I say so-called I mean public utility companies as defined in the particular act under which this proceeding has been instituted.



A statement of the principal cities in which electricity and gas is distributed; tabulation of the number of electric customers; the annual sales of electricity in kilowatt hours as well as the revenue from such sales for the period covered; a similar tabulation showing corresponding material with regard to the number of active gas meters and the annual gas sales in thousands of cubic feet throughout the gas service area.

719 There is also a tabulation of similar material with regard to transportation, heating, water and other non-utility business in the sense of the Act.

Item 6 describes briefly the general character and location of the principal plants and properties of the companies in the system and indicate whether such plants are units or owned in fee or held in some other way.

Item 8 includes a description and statement of the securities outstanding in the reporting system, shows the issues and series of funded debt within the system.

—24—

720 Item 8 b shows each class of capital stock of companies within the system including certificates of beneficial interest outstanding.

Item 10 gives a tabulation of the investments of the companies in the system in other companies which are in parts of the system.

Item 11 a shows indebtedness of each company to associate companies where the debt exceeds a certain amount, \$25,000 or an amount greater than 2 per cent of the debit accounts on the balance sheet of the debtor.

Item 13 shows securities sold during the five years preceding the end of the accounting period covered by the report

which varies as to the U5S statements and U5B statement. It also includes the principal underwriters involved in such flotation.

Item 15 is list of the 20 largest stockholders of each class of stock of the reporting company.

Item 16 a shows the officers and directors of each company including obviously the interlocking directors, if such exist, and indicates the rate of compensation for each director whose aggregate compensation from all companies exceeds \$1,000 per year; the annual salary of each whose aggregate compensation is at the rate of \$20,000 or more per year. 722

Item 16 b shows all regular employees who are not officers or directors, but whose aggregate annual rate of compensa-

—25—

tion is \$20,000 a year or more.

Item 16 c shows the indebtedness of directors, trustees or officers within the system and companies in the system where the total liability is in excess of a stated sum.

Item 16 d describes briefly the nature of any contract whereby any director, trustee or officer has a contract with any company which provides for compensation or any contract between any company and another of whose voting securities an officer owns directly or indirectly 5 per cent or more, or contracts with companies in which the officers and directors on the one hand have beneficial interest in the other contracting party. 723

Item 16 e shows connections of the directors, trustees and officers with banks and other financial houses.

Item 18 lists services, sales and construction contracts. Several exhibits follow items in these statements.



*Colloquy*

Exhibit A is a corporate chart of the system giving a graphic picture of its inter-relations, indicating the percentage of voting securities owned within the system.

Exhibit B comprises copies of the charters, trust agreements and other fundamental documents of the organization as well as copies of the by-laws of the various companies in the system.

Exhibit C comprises copies of the indentures and other

—26—

725 fundamental documents showing the financial interlocking of properties by reason of mortgage liens and pledges.

Exhibit D contains financial statements of the system companies.

Exhibit E contains maps showing the service areas for electricity and gas. The electric map shows generating plants and transmission lines including physical interconnections; sub-stations and distribution from sub-stations; points of interconnection with other electric utility companies.

726 The gas map shows similar data with respect to gas properties operated.

These maps also indicate capacity and kinds of plants, voltage and size of lines and the names of other utilities with whom interconnection is presently made and other material indicating a physical description of the properties of the company which is highly relevant in this case.

Exhibit F contains copies of annual reports to stockholders of system companies.

Exhibit G contains copies of annual reports filed with the state commissions and in certain instances the reports submitted to the Federal Power Commission.

*Colloquy*

727

Exhibit H contains confirmations of sales, services and construction contracts.

In other words these dockets give the respondent's own

—27—

over-all picture of the system and its properties, physical connections and general operations.

Now the first of these substantive exhibits I now offer in evidence as Commission's Exhibit No. 9, the U5A and U5B statements of North American Company which is Commission File No. 30-73, and which is in 26 volumes which I suggest be marked for convenience Commission's Exhibits 9-A through Z inclusive.

728

The Examiner: We will have a recess.

(Short recess.)

The Examiner: You may proceed.

Mr. Browning: If the Examiner please, I should like the record to show that the exhibits offered would require approximately five feet of shelf space and that we have had no opportunity here today to do more than make the roughest sort of check as to what the volumes contain.

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We still desire to press our objection to the admission of this material with the reservation which the Commission counsel has proposed.

In other words, we feel that if the material is offered by Commission's counsel it should be offered for all purposes.

The Examiner: Bearing in mind what you have just said as well as the comments of you gentlemen before the formal offering of these volumes I have reached this conclusion:

—28—

730

*Colloquy*

The material in these volumes is received in evidence subject to your right to object at some later date to its admissibility on the ground of relevancy and subject further to your right to examine it more particularly than you have done so far.

Now as to the matter of whether the Commission is bound by the data in these volumes and whether it vouches for the data is another matter which I reserve ruling on and will await the brief that you mention in your objection.

731 Mr. Hamilton: May I ask, Mr. Examiner, if we are also privileged to object on the ground of immateriality?

The Examiner: Yes, that is a ground for objection also.

The dockets described will be received as Commission's Exhibits 9-A to 9-Z inclusive.

(The documents referred to were marked Commission's Exhibits Nos. 9-A to 9-Z, inclusive, and received in evidence.)

732 Mr. Binford: As Commission's Exhibit No. 10 I offer in evidence the so-called U5S statements of the North American Company constituting a supplemental registration statement for the year 1937, which is in 12 volumes and is designated No. 30-73-2, and I suggest that these 12 volumes be respectively designated as Commission's Exhibits 10-A

—29—

through L inclusive for convenience.

Mr. Browning: May it be understood that we make the same objection and the same ruling applies to this exhibit?

The Examiner: Yes. I make the same ruling and the record will show you are making the same objection which you did to the Exhibits 9-A through 9-Z.

*Colloquy*

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(The documents referred to were marked Commission's Exhibits Nos. 10-A to 10-L, inclusive, and received in evidence.)

Mr. Browning: I don't want to delay the hearing by making the same objection and same reservation each time, Mr. Examiner, that Mr. Binford offers an exhibit, so if we could agree on all these statistical exhibits at the end I could secure an exception.

Mr. Binford: It is so stipulated.

The Examiner: Very well.

734

Mr. Binford: As Commission's Exhibit No. 11 I offer in evidence the North American Company U5S or supplemental registration statement for the year 1938 which is in 13 volumes, and I suggest that they be successfully designated as Commission's Exhibits 11-A through 11-M inclusive.

The Examiner: All right, those 13 volumes are received in evidence under the numbers which you have mentioned subject to the objection and reservation which counsel for respondents entered.

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735.

(The documents referred to were marked Commission's Exhibits Nos. 11-A to 11-M, inclusive, and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 12 I offer in evidence the North American Company U5S statement for the year 1939 which is presently in 12 volumes which I suggest be designated consecutively as Commission's Exhibits 12-A through 12-L.

The Examiner: That will be done.

(The documents referred to were marked Commission's Exhibits Nos. 12-A to 12-L, inclusive, and received in evidence.)

737 Mr. Binford: At this time, may it please the Examiner, it is my understanding that certain additional material which is part of the statement for the year 1939 has not yet been filed by the North American Company with this Commission, and it may amount to two or three volumes.

I would therefore like at this time to reserve Exhibits 12-M, 12-N and 12-O when it is filed.

The Examiner: All right, that reservation will be made.

(Commission's Exhibit Nos. 12-M, 12-N and 12-O, respectively, were reserved for the documents referred to, same to be furnished later.)

738 Mr. Binford: As Commission's Exhibit No. 13 I offer  
—31—  
in evidence the U5A and U5B registration statements filed with this Commission by the respondent Union Electric Company of Missouri which is Commission's File No. 30-177-1.

Union Electric Company of Missouri being a sub-holding Company in the North American holding company system.

The Examiner: All right, let that come in as Commission's Exhibit 13.

(The document referred to was marked Commission's Exhibit No. 13 and received in evidence.)

Mr. Binford: As Commission's Exhibit 13-A I offer in evidence the U5S supplementary registration statement of Union Electric Company of Missouri for the year 1937.

The Examiner: All right, that is received under Exhibit No. 13-A.

(The document referred to was marked Commission's Exhibit No. 13-A and received in evidence.)

Mr. Binford: As Commission's Exhibit 13-B I offer the similar statement of the same company for the year 1938.

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The Examiner: All right, let that come in as Exhibit 13-B.

(The document referred to was marked Commission's Exhibit No. 13-B and received in evidence.)

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Mr. Binford: As Commission's Exhibit 13-C I offer the similar statement of the same company for the year 1939.

The Examiner: All right, that is received as Exhibit 13-C.

(The document referred to was marked Commission's Exhibit No. 13-C and received in evidence.)

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Mr. Binford: As Commission's Exhibit No. 14 I offer in evidence U5A and U5B statements of Washington Railway and Electric Company another respondent and sub-holding company in the North American Holding Company System, which is Commission File No. 30-162-1.

The Examiner: That is received as Commission's Exhibit 14.

(The document referred to was marked Commission's Exhibit No. 14 and received in evidence.)



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*Colloquy*

Mr. Binford: As Commission's Exhibit No. 14 I offer in evidence the U5S or supplemental statement of the same company for the year 1937.

The Examiner: All right, that is received as Commission's Exhibit 14-A.

(The document referred to was marked Commission's Exhibit No. 14-A and received in evidence.)

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Mr. Binford: As Commission's Exhibit 14-B I offer in —33—  
evidence a similar statement of the same company for the year 1938.

The Examiner: Let it come in under Exhibit No. 14-B.

(The document referred to was marked Commission's Exhibit No. 14-B and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 14-C I offer in evidence a similar statement of the same company for the year 1939.

744 The Examiner: All right, it is received under the number which he has given it.

(The document referred to was marked Commission's Exhibit No. 14-C and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 15 I offer in evidence the U5A and U5B registration statements of Illinois Traction Company a respondent in this proceeding, and a registered holding company of the North American Company System, which bears Commission's File 30-79-1.

*Colloquy*

745

The Examiner: All right, let that be received as Commission's Exhibit 15.

(The document referred to was marked Commission's Exhibit No. 15 and received in evidence.)

Mr. Binford: As Commission's Exhibit 15-A I offer in evidence the U5S or supplemental registration statement of the same company for the year 1937.

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The Examiner: All right, so received.

(The document referred to was marked Commission's Exhibit No. 15-A and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 15-B I offer in evidence a similar statement of the same company for the year 1938.

The Examiner: All right, it is received under the number mentioned.

(The document referred to was marked Commission's Exhibit No. 15-B and received in evidence.)

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Mr. Binford: As Commission's Exhibit No. 15-C I offer in evidence a similar statement of the same company for the year 1939.

The Examiner: All right, that is received as Commission's Exhibit 15-C.

(The document referred to was marked Commission's Exhibit No. 15-C and received in evidence.)



748

*Colloquy*

Mr. Binford: As Commission's Exhibit No. 16 I offer in evidence the U5A and U5B registration statements of North American Light and Power Company, a respondent in this proceeding, a registered holding company and a sub-holding company in the North American system bearing file No. 30-78-1 of this Commission.

The Examiner: That is received as Commission's Exhibit 16.

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(The document referred to was marked Commission's Exhibit No. 16 and received in evidence.)

Mr. Binford: As the Commission's Exhibit 16-A I offer in evidence the U5S or supplementary registration statement of the same company for the year 1937.

The Examiner: All right, received under the number mentioned.

(The document referred to was marked Commission's Exhibit No. 16-A and received in evidence.)

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Mr. Binford: As the Commission's Exhibit 16-B I offer in evidence a similar statement by the same company for the year 1938.

The Examiner: All right, it is received under the number which you have mentioned.

(The document referred to was marked Commission's Exhibit No. 16-B and received in evidence.)

Mr. Binford: As the Commission's Exhibit No. 16-C I offer in evidence a similar statement for the same company for the year 1939.

The Examiner: All right, it is received as Commission's Exhibit 16-C.

(The document referred to was marked Commission's Exhibit No. 16-C and received in evidence.)

—36—

Mr. Binford: As the Commission's Exhibit No. 17 I offer in evidence U5A and U5B statements of the respondent Illinois-Iowa Power Company, a registered holding company and a subsidiary under the Act in the North American system which bears Commission's File No. 30-176-1.

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The Examiner: All right, that is received as Commission's Exhibit 17.

(The document referred to was marked Commission's Exhibit No. 17 and received in evidence.)

Mr. Binford: As the Commission's Exhibit No. 17-A I offer in evidence the U5S supplementary registration statement of the same company for the year 1937.

The Examiner: Let that come in under the number mentioned.

753

Mr. Binford: As Commission's Exhibit No. 17-B I offer in evidence a similar statement by the company for the year 1938.

The Examiner: All right, that is received as Commission's Exhibit 17-B.

(The documents above referred to were marked Commission's Exhibits Nos. 17-A and 17-B, respectively, and received in evidence.)

754

*Colloquy*

Mr. Binford: As Commission's Exhibit No. 17-C I offer in evidence a similar statement by the same company for the year 1939.

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The Examiner: That is received under the number mentioned.

(The document referred to was marked Commission's Exhibit No. 17-C and received in evidence.)

755

Mr. Binford: As Commission's Exhibit No. 18 I offer in evidence the U5A and U5B statements of the respondent, the Washington and Rockville Railway Company, a registered holding company and a sub-holding company in the North American System which bears file No. 30-163-1 of this Commission.

The Examiner: Let that come in as Exhibit 18.

(The document referred to was marked Commission's Exhibit No. 18 and received in evidence.)

756

Mr. Binford: As Commission's Exhibit No. 18-A I offer in evidence the U5S or supplemental registration statement of the same company for the year 1937.

The Examiner: That is received under the number mentioned.

(The document referred to was marked Commission's Exhibit No. 18-A and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 18-B I offer in evidence a similar statement by the same company for the year 1938.

## Colloquy

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The Examiner: That is received as Exhibit 18-B.

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(The document referred to was marked Commission's Exhibit No. 18-B and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 18-C I offer in evidence a similar statement by the same company for the year 1939.

The Examiner: All right, it is received as Commission's Exhibit 18-C.

758

(The document referred to was marked Commission's Exhibit No. 18-C and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 19 I offer in evidence the U5A and U5B registration statements of the respondent Northern Natural Gas Company, a registered holding company which is a sub-holding company within the North American System which bears File No. 30-169-1 of this Commission.

The Examiner: All right, that is received as Commission's Exhibit 19.

759

(The document referred to was marked Commission's Exhibit No. 19 and received in evidence.)

Mr. Binford: As Commission's Exhibit No. 19-A I offer in evidence the U5S or annual supplemental registration statement of the same company for the year 1937.

The Examiner: All right, it is received as Exhibit 19-A.

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760

*Colloquy*

(The document referred to was marked Commission's Exhibit No. 19-A and received in evidence.)

**Mr. Binford:** As Commission's Exhibit No. 19-B I offer in evidence a similar statement by the same company for the year 1938.

**The Examiner:** That is received as Exhibit 19-B.

(The document referred to was marked Commission's Exhibit No. 19-B and received in evidence.)

761

**Mr. Binford:** As Commission's Exhibit No. 19-C I offer in evidence a similar statement by the same company for the calendar year 1939.

**The Examiner:** That is received as Exhibit 19-C.

(The document referred to was marked Commission's Exhibit No. 19-C and received in evidence.)

762

**Mr. Binford:** The U5A, U5B and U5S statements or registration statements which have been offered in evidence bring the description of the companies of the North American System through December 31, 1939. A few changes in respect to the financial structure of these companies has been effected or proposed since that date according to documents filed by certain of the companies since that time.

Filings reflecting these changes and proposed changes have been made by the companies affected with this Commission.

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I wish now to offer in evidence the dockets of the Commission in these particular proceedings which reflect things accomplished or proposed since the end of last year.

I therefore offer in evidence as Commission's Exhibit No. 20, Commission Docket No. 70-48 relative to the transaction participated in by the North American and by the St. Louis County Gas Company in which the common stock of the latter company was issued,

Mr. Hamilton: Mr. Examiner, the exhibit which counsel is offering now is somewhat of a different nature than others which have been heretofore offered, but in order to be clear on the record may we understand the same objections and same reservations apply in the case of these particular exhibits which are now being offered as in the case of the exhibits previously offered? 764

Mr. Binford: That is agreeable to me.

The Examiner: Very well, that is the understanding.

Mr. Binford: That was reserved on the record.

The Examiner: You have finished describing it?

Mr. Binford: Yes, I have finished describing it.

The Examiner: Very well, the document which you have described is received in evidence as Commission's Exhibit No. 20.

(The document referred to was marked Commission's Exhibit No. 20 and received in evidence.)

—41—

Mr. Binford: As Commission's Exhibit 21 I offer in evidence Commission Docket No. 70-69 pertaining to the Washington Railway and Electric Company and Capital Transit Company and certain transactions related to the guarantee and assumption of bonds presently pending for which Washington Railway and Electric Company in the proceeding



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*Colloquy*

reflected by the Docket is seeking the approval of the Commission.

The Examiner: The material in this docket is received as Commission's Exhibit 21.

(The document referred to was marked Commission's Exhibit No. 21 and received in evidence.)

767

Mr. Binford: As Commission's Exhibit 22 I offer in evidence the Commission's Docket No. 70-9 pertaining to the North American Company and particularly to the approval of certain recent transactions by it in connection with a refunding of preferred stock by Wisconsin Electric Power Company.

The Examiner: All right, that is received as Commission's Exhibit No. 22.

(The document referred to was marked as Commission's Exhibit No. 22 and received in evidence.)

768

Mr. Binford: As Commission's Exhibit No. 23 I offer in evidence Commission's Docket No. 70-1 which reflects the

—42—

refunding preferred stock operation of Wisconsin Electric Power Company in so far as that company as the issuing company is concerned.

The Examiner: That material is received as Commission's Exhibit 23.

(The document referred to was marked Commission's Exhibit No. 23 and received in evidence.)



*Colloquy*

769

Mr. Binford: As Commission's Exhibit No. 24 I offer in evidence Commission's Docket No. 70-12 in the matter of the Kansas Power and Light Company which is concerned with the recent preferred stock refunding operation of that company.

The Examiner: Let that come in as Commission's Exhibit 24.

(The document referred to was marked Commission's Exhibit No. 24 and received in evidence.)

770

Mr. Binford: As Commission's Exhibit No. 25 I offer in evidence Commission's Docket 70-22 in the matter of North American Light and Power Company, which docket pertains to the surrender by that company of certain preferred stock of the Kansas Power and Light Company in return for cash.

The Examiner: That is received as Commission's Exhibit 25.

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(The document referred to was marked Commission's Exhibit No. 25 and received in evidence.)

771

Mr. Binford: As Commission's Exhibit No. 26 I offer in evidence Commission's Docket 70-6 in the matter of Wisconsin Electric Power Company which pertains to some interest reductions on a note or notes of that company.

The Examiner: That is received under the number which you have mentioned.

(The document referred to was marked Commission's Exhibit No. 26 and received in evidence.)

772

*Colloquy*

Mr. Binford: As Commission's Exhibit 27 I offer in evidence Commission's Docket No. 4343-255 in the matter of North American Light and Power Company which pertains to a recent issue of common stock by that company to the North American Company and to others.

The Examiner: Very well, it is received as Commission's Exhibit 27.

(The document referred to was marked Commission's Exhibit No. 27 and received in evidence.)

773

Mr. Binford: This concludes the evidence which counsel for the Commission wishes to offer at this time.

Mr. Browning: Are all these offered now?

Mr. Binford: Yes.

Mr. Browning: We haven't a yardstick, but I would like

—44—

the record to show that the statistical exhibits which have just been offered by the Commission would occupy a shelf some 20 feet long, that they include hundreds, if not thousands of documents and it is understood, of course, that they have already been admitted with the objection subject to the reservation and exception agreed upon.

774

The Examiner: Yes. I have reserved a ruling as to whether the Commission is bound by this material and I am awaiting briefs from both sides on that matter.

Mr. Browning: And you also made a fuller statement all of which still holds good?

The Examiner: Yes, and that applies to right now.

Mr. Binford: When this hearing was convened on June 7th, counsel for the Commission made no opening statement

as to what the Commission proposed to prove, nor has any such statement been made yet. I think it is possible in order that I make a very brief statement at this time as to the position of counsel for the commission in respect to the effect of the evidence thus far introduced and the issues in this proceeding.

Mr. Hamilton: Mr. Examiner, before counsel for the Commission makes a statement may I ask whether this is intended to be a statement of his personal views or a statement of the views of the Commission?

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Mr. Binford: This is a statement of the views of the Public Utility Division and counsel for the Commission. I

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could hardly say it was a judicial determination by the Commission. It is nothing of that type at all. It is merely a reflection of what I, as counsel for the Commission believe the effect of the evidence is which has been so far established by the facts put in.

Mr. Hamilton: But it is not intended as an expression of the Commission's view?

Mr. Binford: It is not intended as an expression of the Commission's view either tentative or final.

777

Mr. Hamilton: In that case I object to any statement of the personal views of counsel for the Commission, with all due respect to him, or expression of views of the Utility Division inasmuch as the statements are not represented as being the views of the Commission.

It seems highly improper and beyond the scope of the issues for any such statement to be made. If the gentleman wishes to make a statement of the Commission's view that

is another question. If he wants to testify and subject himself to cross examination, that still is another question.

I would like to point out it is fully conceivable in this proceeding that another counsel or other counsel may represent the Commission at various times during the course of the proceeding, and such other counsel may well have other views.

We therefore can be apprised at no time what the particular attitude of the particular representative of the Com-

mission is at any given stage.

The Examiner: Well, Mr. Binford, isn't what you intend to say argument rather than testimony?

Mr. Binford: It is certainly not testimony. It is argument if it is anything. It is merely an attempt to advise the Examiner and to advise counsel as to what issues I, as present active counsel in this case, believe are raised by what has been put in evidence.

The Examiner: Well, in view of the objection which has been made I—

Mr. Binford: (interposing) It is for the benefit of the Examiner and any one reading the record as well as for the benefit of opposing counsel. Of course it carries no weight.

The Examiner: In view of the objection which has been made I feel that I must sustain the objection on the ground that the statement which you are about to make is argumentative and does not embrace testimony which we alone are considering in this matter, as I understand it.

This order directs me to take testimony and not to hear argument. Now it strikes me in the brief you are to submit

you might go into those matters if you think it necessary in your brief.

Mr. Binford: The Examiner feels then it would be out of order for me to make any statement which I might feel would show the purposes more particularly for which this

—47—

evidence has been introduced?

The Examiner: I suggest that you write out what you wish to present and submit it to counsel and see if their objection still holds good, or you may state it orally on the record and then if counsel still insists on his objection I will rule on it then.

782

Mr. Browning: I think that would be quite sensible if Mr. Binford will give us a written statement of what he proposes to put in. We would be very glad to reconsider the question and decide then whether we will continue to press our objection.

Mr. Binford: I am not prepared to follow that course at this time and I respectfully except to the ruling of the Examiner.

The Examiner: All right.

783

Is there any objection, Mr. Browning, to his stating orally and then letting your objection come in?

Mr. Browning: If the Examiner please, I don't want to make technical objections, but our feeling was that the statement offered with the limitations imposed upon it made it improper for counsel for the Commission despite our objection to make a full statement for the record, and then we argue the objection later.

The record still has all the material in it. Accordingly we would much prefer the suggestion which the Examiner

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*Colloquy*

has made. Since Mr. Binford was preparing to make a statement for the record I am a little puzzled as to why the Examiner's suggestion isn't the most practical way to handle the matter.

The Examiner: Off the record.

(Discussion off the record.)

785 The Examiner: On the record. We have reached the hour of 12:30 and we will recess until 2 o'clock. At that time we will take this matter up again.

(Whereupon, at 12:30 o'clock p. m., a recess was taken until 2 o'clock p. m. this day.)

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## AFTER RECESS

(The hearing was resumed at 2 o'clock p. m., pursuant to recess.)

The Examiner: The hearing will be resumed.

Have you gentlemen changed your position with regard to the matter that we were discussing when the luncheon recess took place?

Mr. Browning: Not at this time, Mr. Examiner.

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The Examiner: Well, I feel that I should sustain the motion which Mr. Hamilton made and you may have your exception, Mr. Binford.

Mr. Binford: Very good, sir. The Commission has no further testimony to offer at this time.

Mr. Browning: The respondent, the North American Company, moves for an adjournment of this proceeding for not less than four weeks. We submit that such motion should be granted for the following reason:

Until the denial by the Commission on June 7, 1940 of the respondent's motion for adjournment and to hold this proceeding in abeyance, the respondent had every reason to believe that its answer in this proceeding would be given fair and careful consideration by the Commission and that it would have a reasonable opportunity to carry out the program outlined in its answer unhampered by extended hearings.

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The Commission's denial of such motion was the first clear and unmistakable evidence of the Commission's determination to force this proceeding to an immediate hearing.



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*Colloquy*

As soon as respondent was apprised of the Commission's attitude it commenced the preparation of its case and has been actively engaged in such preparation ever since.

As any lawyer will appreciate, however, to prepare this case properly, considering the extent and complexity of the issues of law and fact involved will require months of intensive effort. Any lawyer knows that to prepare the case adequately will require several months even though we have a large staff working on the matter.

791

Accordingly, the respondent is not now ready to present evidence and will require substantial additional time. This proceeding is the most vital and important to which the respondent has ever been a party involving, as it does, respondent's entire business future.

This proceeding raises or produces the most complicated and difficult question imaginable, involving as it does broad constitutional questions as well as serious questions of statutory consideration.

792

These questions must be resolved against a broad, factual background. Adequate preparation for such a proceeding obviously can not be pushed through in a few short weeks

—51—

or even months. Every dictate of fairness and common sense as well as settled legal principles requires that adequate time, having in mind the nature of the proceeding, be afforded to respondent for preparation.

While this motion is for an adjournment of at least four weeks, it should be commented that not even four weeks time will permit respondent to adequately prepare its entire case.

At best it will put respondent in position to offer certain evidence when the hearing reconvenes following which further adjournments will be necessary from time to time.

Respondent is doing and will continue to do everything in its power to expedite the preparation of its case, however, and will present as much of its case as possible at the reconvened hearing.

We are requesting an adjournment of at least four weeks at the present time. That is, we are putting the request in that form instead of a request for an adjournment of several months because of the expressed desire of the Commission's staff to expedite the hearing.

In other words, Mr. Examiner, I think it is perfectly clear that it will require months to prepare the case and that we could do a lot better job in the preparation if we had adequate time. The better prepared our case is, the better it would go in, the less time of the Examiner and the Commission would be required, and in order to do a really good

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job we ought to have several months.

Now on the other hand, I must state in fairness that we can have part of our case ready in four weeks and as long as the Commission wants the thing moving along we are making the motion for four weeks adjournment. My idea is at the end of the four weeks period when the hearing reconvenes I will put in everything I can. Then when we reach the end of what we have we will have to have further adjournment to prepare ourselves for further hearings.

I should also like to base this motion on still another ground. The Commission has offered in evidence today some

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*Colloquy*

20 feet of shelf space of material. It is obvious that we should have a fair opportunity to go over the material and particularly with a view to correlating that material to what we ourselves intend to present. We have a very large proceeding here, a proceeding involving large issues. This tremendous bulk of statistical material is submitted and offered in evidence. Even if we had our case completely prepared up to the present time and were ready to step in here with witnesses who would take the stand, and there would be weeks of hearing we would still need a substantial period of time to correlate our case with the Commission's case.

797

In other words, on that ground, we should be granted a substantial length of time.

The Examiner: Have you anything else that you want

—53—

to add before Mr. Binford is heard?

Mr. Browning: We have prepared here a written memorandum, Mr. Examiner, because we understood it would be convenient to have it for your purposes in considering the matter and I would like to submit that memorandum to you.

798

I should say that the memorandum which was prepared this morning before the hearing opened does not contain any discussion of the last point which I made with regard to the statistical exhibits and accordingly I hope the Examiner will remember that point.

The Examiner: Very well. Have you anything to say about this application, Mr. Binford?

Mr. Binford: Yes, I have, Mr. Examiner. Counsel has spoken of the insufficient time available for the preparation of respondent's case. I would like to point out the time of

hearing has twice been deferred and the last order of the Commission set definitely for this date. I think I have no authority to ignore that history of the continuances in this case and of the fact that the last time continuance was granted the Commission definitely set the case for hearing as of this date.

Furthermore, the reasons or grounds for argument which were submitted to support this motion for a continuance did not set forth, so it seems to me, any actual facts showing the necessity for the granting of the continuance.

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The Examiner: You are talking now about what was said on the last motion?

Mr. Binford: I am talking about what was said on the motion presently pending before yourself.

The Examiner: All right.

Mr. Binford: There is no statement as to what these exhaustive exhibits or treatments of subjects by witnesses might consist of, as to what they go to, as to what issues are supposed to be supported by them, or anything except a general statement there would be a great mass of evidence which had to be assembled and put in here. We did have the respondent's somewhat exhaustive statement in a 20 foot shelf as counsel expressed it, as to their properties and systems. What additional requires the great preparation hasn't been shown or what great mass of additional material requires a further delay to be prepared hasn't been shown.

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In other words, it is a mere statement there is to be a great mass of testimony in evidence. Possibly there is no

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*Colloquy*

reason for it. There should be some showing what the evidence is that is required to be put in this case.

This Act has been enacted since 1935 directing the Commission to take this action as soon as possible after January 1, 1938.

The Examiner: What do I understand your position to be?

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803

Mr. Binford: I oppose this motion for continuance at this time. I have no great argument against a short recess.

The Examiner: Do you want it to proceed right along continuously?

Mr. Binford: I see no necessity for four weeks or for any extended recess at this time upon any of the grounds asserted on the record by counsel.

The Examiner: We will have a short recess.

804

Mr. Browning: Could I make one suggestion, Mr. Examiner, which I hope you will bear in mind that on the scope of this case, if the Commission's own exhibits require 20 feet of shelf space, to do justice to the case, as they see it, I think it would be obvious to any experienced lawyer why the evidence for the respondent would require considerable time.

Mr. Binford: I would like to also add one further remark if I may.

The Examiner: All right.

Mr. Binford: Counsel has spoken of necessity for study by counsel for the respondent of the documentary evidence introduced on behalf of the Commission.

I want to call attention to the fact all this documentary evidence is material prepared by the respondents themselves with which they are undoubtedly as familiar as are the staff of the Commission.

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Mr. Browning: I need hardly say that the respondent is familiar with which it has filed. I did not mean to suggest that the time was necessary for the respondent to become familiar with the material filed. If it were not familiar with that material it would not require six months. It would require two years. 806

What I said was to properly correlate the material offered would require a substantial length of time.

Mr. Examiner, I have never seen a major case which was before a court to proceed, or anything like this nature where after one side had rested after putting an exhaustive record either in the form of statistics or of testimony the other side was not granted a period of time to correlate the material.

The Examiner: We will now go off the record.

(Discussion off the record.)

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The Examiner: On the record. I think there is considerable merit in the application which has been made and I also think that it would be unfortunate and undesirable to start the next session at the end of the week on a Friday, so I am going to grant you additional time and will continue the case until 10 o'clock a. m., Monday, July 15, 1940. At that time I am going to rely on us being ready to proceed and make some progress with this hearing.

Mr. Browning: Yes.

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*Colloquy*

Mr. Binford: I respectfully except to the granting of the  
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motion for continuance.

The Examiner: All right.

(Whereupon, at 2:30 o'clock p. m., Friday, June 21, 1940, the hearing in the above-entitled matter was continued until Monday, July 15, 1940, at 10 o'clock a. m.)

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BEFORE THE

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**Securities and Exchange Commission**

File No. 59-10

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**IN THE MATTER***of***THE NORTH AMERICAN COMPANY AND  
ITS SUBSIDIARY COMPANIES.**

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812

Room 1102,  
Securities and Exchange Commis-  
sion Building,  
Washington, D. C.,  
Monday, June 24, 1940.

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The above-entitled matter came on for oral argument  
before the Commission at 10:00 o'clock a. m.

Present:

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COMMISSIONERS JEROME N. FRANK (Chairman), ROBERT  
E. HEALY, EDWARD C. ENCHER, and SUMNER T. PIKE.

Appearances:

RALPH C. BINFORD, Esquire, appearing for Securities  
and Exchange Commission.

S. PEARCE BROWNING, JR., Esquire, (Of Sullivan and  
Cromwell), 48 Wall Street, New York City, New  
York, appearing for The North American Company.

## PROCEEDINGS

Chairman Frank: "You may proceed, Mr. Binford.

ARGUMENT OF RALPH C. BINFORD ON BEHALF OF SECURITIES  
AND EXCHANGE COMMISSION.

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Mr. Binford: May it please the Commission, this matter comes before the Commission upon an exception taken by me on behalf of the Commission to a ruling of the Trial Examiner in the North American integration case.

This case came on for hearing at 10 o'clock a. m., on Friday, June 21st, pursuant to order of the Commission definitely setting the hearing for that date. That order had granted a continuance from June 7th to the 21st, in response to a motion for an indefinite continuance which was denied.

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Last Friday counsel for the Commission introduced in evidence voluminous documentary matter consisting of the notice of registration as a holding company filed by each of the registered holding companies of the North American system, the registration or U5B statements, the annual supplementary statements, or U5S statements filed by such companies, and certain filings covering the intervening period for each fiscal year.

Counsel for the Commission then stated that he had no further testimony to offer at that time, or that he wished to offer at that time.

Thereupon, he also endeavored to make a statement as to what he considered was the evidentiary effect in relation to the issues in the case of the material received in evidence.

Objection was made to that on behalf of the respondents upon the ground that it would be argumentative and should not properly go into the record.

That was in the nature of an introductory statement appearing in the case. That objection was sustained by the Trial Examiner and an exception was noted. That exception is now before the Commission.

Then, counsel for respondents presented an oral motion for an adjournment of this proceeding for not less than four weeks. Only general argument was offered in support of that motion. I have the record here. It consists of three or four pages. The gist of it is—and I will try to state it as fairly as I can—that counsel for the respondent and respondent had reason to believe, until the entry of this Commission's order on June 7th, that in view of the program set down in the answer of the North American Company as to what it proposed to do to conform, according to its views, with section 11(b)-1, it had every reason to believe that there would be no extended hearings in the matter and that it could go ahead with that plan. No particular statement was made as to what the reason was that made them believe that. 818

Counsel then stated that only then did the North American Company start the preparation of its case. 819

Chairman Frank: Only when?

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Mr. Binford: On or about June 7th, after the denial of the motion.

Commissioner Healy: Have you the entire Reporter's transcript of the proceedings?

Mr. Binford: I have, sir.

Commissioner Healy: Does that cover everything, and your offer of evidence?

Mr. Binford: It covers everything.

Commissioner Healy: May I see it?

Mr. Binford: Yes, sir. Here it is.

Chairman Frank: Did counsel for North American Company indicate that he or his client had been given assurances by anyone or that he had any grounds for believing that its  
821 answer would be taken——

Mr. Binford: There is no statement in the record as to any reason for that expression of belief.

Counsel then stated that it would take a great deal of time to prepare the case, that is, a great deal of additional time.

Chairman Frank: When was the answer filed?

Mr. Binford: The answer was filed on May 16th. The proceedings were started on March 8th. There had been two postponements, the first one postponing the time for answering. In view of the matter in which the order was framed it  
822 also postponed the time for hearing. That was 30 days,

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which was the full amount asked for by North American at that time.

Subsequently, on this motion for indefinite postponement until the Commission had made a report under section 30 of the Act, which motion the Commission denied, it granted a further recess for two weeks.

Counsel has not stated what the evidence is that he says will take so much time to prepare on behalf of his company. There is an affirmative program laid down in the answer.

There is no showing that there is a necessity for any such voluminous testimony; there is no suggestion that counsel was taken by surprise when the U5B and U5S statements were put into the record. And there being nothing else offered by the Commission at that time, all of the evidence now in the record consists of material with which the respondent companies and the firm representing the respondents, I should say, should be very familiar, they having prepared this material themselves. As I say, there is nothing in the record which came in any way as a surprise.

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Of course, rule 7 of the Commission's Rules of Practice provide:

"A hearing before a trial examiner shall begin at the time and place ordered by the Commission, but thereafter may be successively adjourned to such time and place as may be ordered by the Commission or by the Trial Examiner."

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It is recognized as a general rule that motions for continuances are addressed to the discretion of the Trial Judge or other officer presiding at a judicial or quasi-judicial hearing. However, the discretion so vested in the Examiner is, of course, a judicial and not an arbitrary one.

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But here we have no evidence or specific statement of any character. It is merely the lack of preparation, without anything in the record.

The statute has been on the books since 1935, and certainly it has been plenty of notice as to the pendency of such a proceeding.

The general rule in respect of continuances for want of preparation is set forth in 17 Corpus Juris Secundum on page 203, as follows:

"As a general rule a continuance for want of preparation will be refused. An applicant to be entitled to relief on such ground must show some precise legal or strong equitable reason and the exercise of reasonable diligence in every direction in which he claims to be unprepared."

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Counsel has not stated in what direction he is unprepared. He states it would take a lot of time to prepare the case. What the evidence is that he seeks to get has not been explained on the record.

Although there is discretion vested in the Trial Exam-

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iner, yet the action of the Trial Examiner, upon the showing made upon the record, in granting a continuance of more than three weeks in this proceeding, is without proper basis, is arbitrary, and should be reversed.

There might be some justification for a recess of a few days, or possibly a week; but why three weeks or a month is necessary certainly has not been shown on this record. If they have not prepared their case for this time there is no showing that they will be any better prepared six months or two years from now.

I respectfully submit that the ruling of the Trial Examiner should be overruled and the exception sustained.

ARGUMENT OF S. PEARCE BROWNING, JR., ON BEHALF OF  
RESPONDENTS

Mr. Browning: If the Commission please, Commission's counsel has given the situation which occurred on Friday. Our motion for an adjournment for at least four weeks was made after the introduction of the Commission's statistical and documentary case. Then I received notice of this appeal after reaching home late Friday night.

I might say at the outset that it would seem in a matter of this nature the mere granting of a short adjournment in the course of the hearing by the Trial Examiner in the exercise of discretion should not be reversed.

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Chairman Frank: Do you think we have no power to

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reverse him?

Mr. Browning: Certainly, Mr. Chairman, every power to reverse him. My point is simply that some weight should be given to the Examiner's exercise of discretion.

Our motion to the Examiner was for a four-weeks adjournment, and for reasons which we stated fully. He gave us a three-weeks adjournment; but I did not take an exception or plan an appeal from that order because I knew that the Examiner was obviously trying to be fair, and I would have preferred to accept that handicap rather than take the matter up on appeal.

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To state our reasons for adjournment, we repeat that until June 6th and 7th the respondent believed that in view of the nature of its answer and the program which it had proposed that it would be given a reasonable opportunity to work out the program without there being extended hearings.



In other words, it really visualized an entirely different type of situation.

We all know, of course, that whereas under certain sections of the Act the procedure has now been worked out over an extensive period and matters go through rapidly and very easily, that these proceedings under section 11(b)-1 are new and that there was a real question as to what procedure would be followed.

In any case, this respondent understood that another  
833 —66—  
procedure was going to be followed.

The Chairman's question of a moment ago as to what specific statements we are relying upon is the next matter. Frankly, I would very much prefer not to go into that, simply for the reason that I think it would lead to useless re-criminations. We feel that this respondent has been on very good terms with the Commission and its staff. We do not want to get into that kind of an argument. We think it would be very bad business for the future. But I can say to you without qualification that Mr. Shea, president of the  
834 respondent, was under that very strong impression that there would not be extended hearings at the outset.

Accordingly, what the respondent did and what its counsel did was to rivet their attention on the answer and on the programs, and not on extended hearings; in other words, the actual preparation for the case.

When Mr. Shea came back from Washington after a conference on June 6th, and we also had the very definite action of the Commission on June 7th, we knew that we were wrong as to the Commission's views as to the general procedure to be followed; we knew that there were going to be

hearings, and extended hearings, and we started immediately to prepare our case.

From time to time mention is made of 1935 and March 9, 1940. I submit that every lawyer in this room knows how many times he ever started to prepare a case for trial before his answer was submitted. I just wonder how many times

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he did.

Now, as to the nature of the hearings, the comment is made that our remarks were general. This proceeding is obviously the most important and vital to which the respondent has ever been a party or to which it can be a party under the Act. The members of the Commission know that just as well as I do. It raises the broadest, most complicated and difficult questions imaginable, involving both broad constitutional questions and questions of statutory construction. It is new. There are no precedents under section 11(b)-1. The question has been reserved by the courts.

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This respondent, as its answer shows, had hoped to work out the matter with the Commission so that we would not be litigating constitutional questions. We did not want to.

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On the other hand, I think it is clearly obvious that if we are going to have hearings and if we are going to have a full record, that this respondent must have a record which will bring out those constitutional questions; and those questions must be resolved, as we see it, against broad factual backgrounds.

Adequate preparation for such a proceeding obviously cannot be pushed through in a few short weeks. And I will go further and say that we could not do a really good job in less than several months. I think that any lawyer will

realize that if he puts himself in our position. Every dictate

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of fairness and common sense, as well as settled legal principles, requires that the respondents be given adequate time to prepare for the hearings.

Chairman Frank: Did North American Company ask for a clarification of the issues along the line of U. G. I.'s answer?

839 Mr. Browning: No, Mr. Chairman. And since you raise that point may I say just a word about it. It is somewhat ironical in this whole integration setup, the way things work out. As I see it, the Commission started in the integration proceedings on one theory. That theory, of course, was reflected in the form of notice and order, which was substantially the same for all companies. One of the systems then raised this point under section 11(a), and following that I believe four of the systems raised it; and tentative plans are being prepared for them. The ironical part of it is that those other systems have been given an adequate time for preparation. In other words, we are the respondent who 840 followed the line of thought which the Commission itself followed; we adopted the Commission's procedure and did not move for a bill of particulars.

Chairman Frank: Assuming that you had a right to get a bill of particulars or that the Commission considered it appropriate to give it as a matter of course; is the fact that you did not ask for one, and, therefore, I would gather

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that you were entitled to one, the reason you must base your present motion upon the absence of such clarification as might conceivably have been given to you.

Mr. Browning: I am not basing it upon the absence of the bill of particulars. But I would like to say further that what we followed was the original viewpoint set forth in the order of the Commission; that is, that the evidence in the proceeding go in before anybody made up his mind as to what was what. And I simply point out that this is a highly ironical result, a remarkable result, that we are penalized for following that procedure.

Under these circumstances, what we really need is an adjournment for several months to prepare our entire case adequately. When we so stated to the staff and they objected and wanted to go ahead, stating that they wanted to press the matter, we tried to meet their viewpoint just as far as we could. In other words, instead of making a motion for an adjournment for three months on Friday I made a motion for an adjournment of four weeks, and I stated that I did it with the idea that we could certainly have a fair amount of evidence ready for presentation at the end of the four weeks. We would not have our entire case prepared but we would be ready to go forward and put in material.

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Chairman Frank: If the adjournment were granted and you put in some evidence at that time, then you would ask for a further adjournment?

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Mr. Browning: Yes, Mr. Chairman. I intend to do my very best with this adjournment. I intend to prepare just as much as I can on a hammer and tongs basis, and I intend to offer just as much evidence as I can offer at the end of the adjourned period.

This motion is a very different motion from the motion of June 7th. That motion went to the whole question of

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*Colloquy*

what kind of a proceeding it is and what kind of procedure you are going to follow. This is a motion which one might characterize as being a motion in trial. It is simply for preparation. And we have stated unequivocally to the Examiner that we are going to go ahead with everything that we can get ready.

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I have been asked how much can we get ready. I cannot say definitely. The more time we have, of course, the more we can get ready. I am dealing with people and with witnesses I have never even met. I have to meet them for the first time. But we are going to do our best to meet the views of the Commission. We are sorry that they are the views of the staff. We would prefer to try the case the other way; but we are going to do our best to go along.

I would like to make an additional point. As Mr. Binford stated, the Commission had rested after offering these rather voluminous statistical documentary exhibits, which would require some 20 feet of shelf space. Of course, we are

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familiar with that material. We certainly are. It is not a question of not being familiar with it. If it were new to us it would take years. What we want to do is correlate our case with the material that is in evidence so as to avoid duplication so far as possible and to make as good a record as possible. However, it is something that has a very material bearing on the adjournment, the fact that the Commission had introduced this evidence and rested.

I submit that on those reasons I have given that any court in the country would have granted us the adjournment which the Examiner granted.

I also submit that the Commission should not want us to go forward unprepared in these proceedings, first, because it is unfair. And fairness should be our first consideration at all times. Even if the company were wrong in its understanding, completely wrong, even if it had no justification for its understanding, still the fact is that it was its understanding, and we do need the time for preparation. And in that case it is unfair not to grant it.

Chairman Frank: In the light of the requests which have been referred to by counsel for the Division, do you think it would be appropriate, at the minimum, that the company file an affidavit stating that that was its reasonable understanding? 848

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Mr. Browning: We will be glad to file that affidavit, Mr. Chairman, if you want us to do so. I stated the reasons why I thought it was desirable to avoid it. We want to keep on in the way that this respondent has dealt with this Commission in the past, able to discuss things with you at all times. If we have misunderstandings every now and then I do not think it helps things any to have an attitude of controversy about it. I am entirely willing to submit such an affidavit if you think it would be advisable. 849

Chairman Frank: We will consider it.

Mr. Browning: In the second place, these integration proceedings are new and difficult and a very large task for the Commission. You have a monumental task in them. One of the things on which we could help in that monumental task is to have a decent record come up from the integration proceedings. The Commission counsel can try its best, but it



takes both counsel to make a good record. We want to make a good record. We want to work right along with the Commission's counsel and have the best record that we can have so that you will have it before you. But that is one of the things that takes time.

If I may recall a famous letter of Cicero, you will remember he wrote in the letter "If I had had more time this letter would be shorter".

In other words, by asking for more time for preparation  
851 I do not mean that the record is going to be any longer. I

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think the record will be better, and it may be shorter.

Furthermore, we have had a very legalistic argument here. To take the practical aspect of the matter, we have told you our situation. What possible difference does it make to anybody as to this adjournment of three weeks.

The integration section has been involved a long time. These proceedings are going to take considerable time. We come in and we need three weeks more. I submit that it makes no difference to anyone else.

852 Up to now I have been trying to stress the practical considerations as we see them. We feel, and we feel very deeply, that to deny us time for adequate preparation would amount to a denial of due process and would make a farce of the hearing. I do not have any memorandum prepared for submission to the Commission today because there was insufficient time for it; but I can submit such a memorandum, if required.

Now, if I may say a word as to the length of the adjournment, the mere question of how long, the Commission's counsel himself has indicated that some adjournment would



have been proper. The period granted included three Saturdays, three Sundays and the Fourth of July. I expect to work on every one of those days. I am going to have to do it with just the three weeks adjournment. But we have general personnel, just as this Commission does, and I submit that to force all of your personnel to work every Saturday and Sunday and the Fourth of July is something that

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should be done only when there is a controlling emergency that requires it. If the emergency comes they are all prepared to do it. And, of course, they will all do it if they have to. I am not pleading for myself on this. As I say, I expect to work on all of those days anyway. But I think it has a definite bearing upon the question of the time granted.

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The Commission's counsel has been very courteous in regard to the conduct of the proceedings, and this is the only disagreement which is brought before you. I very much dislike to see the proceedings start off with an elaborate argument on such a matter as this. We want to cooperate in conducting these hearings. We believe, however, that the Commission will understand and will be fair, and that the Examiner's ruling will be sustained.

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The point was made in the argument of Commission counsel that I had not given any reasons for an adjournment. I think I have given quite a number of reasons. But if I have not been sufficiently specific, or if there is anything that I ought to add or that the Commission would like to have me add, I should be very glad to do so.

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*Colloquy*REPLY ARGUMENT OF RALPH C. BINFORD ON BEHALF OF THE  
SECURITIES AND EXCHANGE COMMISSION.

Mr. Binford: May it please the Commission, counsel for the respondents stated his desire to cooperate in every way to facilitate these proceedings and to expedite them. As I pointed out before, there has been no statement as to the nature of this evidence that they say will take so much time to prepare.

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In their answer the respondents say they want to keep as their principal system a system based, as they expressed it, on St. Louis and operating in the contiguous states of Missouri, Illinois and Iowa. They mention numerous other properties which they state they are ready to dispose of.

There was an objection to my attempting to state what, under the circumstances, the evidence as received on the issues might possibly be narrowed down to.

Commissioner Healy: What issues do you think you have the burden of proof on? I have looked at the transcript, and you put in a great many exhibits. I don't know whether they would occupy 24 feet of shelf space or not.

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Mr. Browning: 20 feet.

Mr. Binford: I think that was an estimate.

Commissioner Healy: That may be a close estimate. But I do not discover any statement in the record as to what issues those documents are presented on.

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Mr. Binford: I endeavored to state that but the Examiner sustained an objection to my statement.

Commissioner Healy: That is why I asked for the information at this time. On what items did you take the burden

of proof? Do you think that you have undertaken the burden raised by the A. B. C. issues in the 11(b)-1, or do you think you have merely undertaken to prove how many integrated systems there are in the North American system?

Mr. Binford: The order issued in this case stated that it appeared to the Commission that the holding company system of the North American Company is not confined in its operations to those of a single integrated public utility system within the meaning of the Act, and such other businesses as are reasonably incidental, economically necessary or appropriate to the operations of such integrated public utility system. 860

Commissioner Healy: The notice stated very plainly, or we tried to make it plain, that that was not an allegation. The fact that you prove there is more than one does not necessarily end it.

Mr. Binford: That is true. The U5B and U5S statements very definitely show that the North American system is not confined to a single integrated system. It tends to show what various properties and operations there are within the integrated system which might individually be so regarded. 861

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Commissioner Healy: You are now getting to the point that I wanted to be informed about. Do I understand you to say that you introduced the evidence to show, (1) that there was more than one integrated system (2) to prove what they were?

Mr. Binford: I introduced it to show that there were more businesses and properties than could be regarded as one integrated system. It did not appear to be necessary, in view of the allegations, that we assume the burden of

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*Colloquy*

proving in the first instance any more than that there was property which could not be regarded as within one integrated system.

That, if the Commission please, is the reason why I introduced it.

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In the answer an apparent issue has been made by the North American Company that they will retain or will seek to retain the system based upon St. Louis, to which I referred. In view of that allegation in the answer, in the U5B and U5S statements and other material put in evidence it will very clearly appear that numerous other geographical groups of companies, such as those in Washington, or the District of Columbia, and adjacent territory, those around Cleveland, the Ohio group, and certain other properties could not under any interpretation of the Act be regarded as part of that St. Louis system. Therefore, they would have to be eliminated if the St. Louis system is retained as the primary system.

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Commissioner Healy: Just confining yourself to the question of what issues you undertook the burden with respect to, I think I understand you on the integration matter, but were you undertaking the burden on the A. B. C. standards of section 11(b)-1?

Mr. Binford: Not as to the retention of distant systems.

Commissioner Healy: Where do you conceive the burden of proof is on the issue as to whether the North American Company can retain more than one integrated system.

Mr. Binford: I believe that burden of proof is on the company.

Commissioner Healy: And you did not mean by introduc-

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ing the evidence you did that you were assuming the burden on that point?

Mr. Binford: No, sir; I did not. However, I propose to contend that the suggestion set forth in the answer, that Cleveland might be retained as an additional system, despite the intervening state of Indiana, was, on its face, as a matter of law under the A. B. C. standards, an impossibility. I think it could not be done because of the geographical distance between the two systems and because of the magnitude of the Cleveland system. As appears obvious from the U5B and U5S statements, it is such that it could stand on its own feet and could economically operate as an independent system. It is, in effect, so operated.

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Possibly I was a little anticipatory if I stated that as one of the things which the exhibits were offered to prove. In the first place, what they were put in for was to show the magnitude of the property, the fact that they consist of more than one integrated system, and that numerous properties cannot be regarded as part of the properties based upon St. Louis.

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Commissioner Healy: Is there any real necessity for trying out the issue as to the Washington property since the answer, if I remember correctly, states that they propose to get rid of the Washington property.

Mr. Binford: It would seem not. But without permitting me to state those issues, counsel may be expecting to spend

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months to prove that the Washington system is an integrated system, when probably it will not be a matter at issue at all.

*Colloquy*

Chairman Frank: You say you were denied the opportunity to make a statement?

Mr. Binford: The Trial Examiner sustained the objection to my making the statement at to the issues.

Commissioner Healy: On your Washington matter, it would seem to me that it might not be difficult to prove the Washington property and integrated system, and it might not be material. The question would be whether the holding—

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Mr. Binford: They said St. Louis is what they want to keep.

Commissioner Healy: Having said they want to get rid of it, that issue might drop out of the case.

Mr. Binford: If counsel will state the reason he desires the adjournment is because certain necessary witnesses who are familiar with what may be regarded eventually as part of the St. Louis system have not been contacted yet, and what he proposes to prove by them, and what companies can properly be regarded as within it, then there might be some ground for an adjournment or a recess if for some good reason he has not been able to prepare on that point. But he leaves it wide open as to what all of this evidence is going to be. I don't know, and I don't see how the Trial Examiner could know whether it will be material and relevant evidence.

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Commissioner Healy: I do not understand the ruling under which you were not permitted to make a statement.

Mr. Binford: I excepted to it.

Commissioner Healy: You put in 12 feet or 20 feet of evidence in documentary form. So far as I can determine from



*Colloquy*

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the transcript it was not stated what issues it was relevant to or what you intended to prove.

Mr. Binford: I attempted to make it.

Chairman Frank: Do you care to make a motion to overrule the Trial Examiner?

Mr. Binford: I excepted to the ruling.

Chairman Frank: Would you care to argue that now?

Mr. Browning: I would be glad to do so.

Chairman Frank: Why did you not want to know what your adversary's position was?

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Mr. Browning: Because, Mr. Chairman, it was phrased, if I recall correctly, more or less as the personal views of trial counsel. It was not even a tentative official view with regard to the matter. In other words, if the particular trial counsel should be shifted to another hearing or another matter, a week later, as we see it, we could have an entirely different statement presented to us.

Had we understood it to have been a statement of the tentative position of the Commission, and official, we would

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have had a different matter there. In other words, at that point it would have been really like an opening statement of counsel.

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Of course, I have some difficulty in seeing at what moment it gets to be a tentative statement of the Commission itself, and what the difference is between that and a bill of particulars.

Chairman Frank: Assuming for the moment that there is a difference, you are in a proceeding in which counsel for the Utilities Division is presenting evidence bearing upon the issues framed by the notice of hearing and your answer.



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*Colloquy*

If he cares to tell you why he is introducing certain evidence I would think, if I were you, as his adversary that you would want to be enlightened because it would enable you in preparing your case to have a statement, and, as a result, it might be that you would not have to spend three weeks but would have to spend only a day. In other words, you have left yourself in such a mystified position as you are in here today, and, therefore, you want additional time because you do not know where he is headed. I think it would be illuminating to you and helpful in preparing your case to know why he introduced that evidence.

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Mr. Browning: The suggestion was made at the hearing that since the statement was to be read in and there was nothing secret about it that we would have a chance to read

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the statement and probably would withdraw our objection.

Commissioner Healy: Are you familiar with the stop order cases under the Securities Act?

Mr. Browning: No, sir.

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Commissioner Healy: I would like to point out in that connection that when counsel tries a case under section 8, the stop order, under the Securities Act, while acting as counsel for the Commission he is not stating the Commission's point of view.

Mr. Browning: If we had a statement presented which was going to be the position of the Commission counsel throughout the hearing, I think that is one thing. Perhaps I misunderstood the Commission's counsel; but it seemed to come in more as a personal statement of his views. I think the two things are different. We are getting into very fine lines there.

Commissioner Healy: They are too fine for me. I don't know how you can define a personal point of view and that of a man on the Commission's Utilities staff trying a case for the Commission. If you can find that line your eyesight is much better than mine.

Mr. Browning: We wanted to consider the matter and see if it would be possible—and I might say that I had some indications from Mr. Binford on the side as to what his views were.

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We were directed to file a brief on that matter before the Examiner, but I do not have any brief ready. I have not seen the transcript.

Mr. Binford: File a brief on what?

Mr. Browning: File a brief on the question.

Mr. Binford: On that question?

Mr. Browning: Well, no; you are right, Mr. Binford. If the Commission wants to consider that question now I am perfectly willing to waive any notice of it and have it come up.

Commissioner Healy: What would you think of a program of this kind? Suppose the Commission were now to overrule the Trial Examiner's order or ruling sustaining your objection to Mr. Binford's making his statement and set the case for hearing Wednesday morning so that that statement could be made; then, after the statement is made take an adjournment until that afternoon or the next morning and then hear counsel on the subject of when the hearing should be resumed.

Mr. Browning: Mr. Commissioner, I want to be entirely cooperative and helpful; but that kind of a program is the

most time consuming from my own standpoint. I went back to New York Friday night ready to plunge into the preparation but I had to come down here this morning and argue it. That kills today. If I come down again Wednesday that will kill Wednesday.

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Commissioner Healy: Are you prepared to make the statement this afternoon, Mr. Binford?

881 Mr. Browning: I think I can stipulate with Mr. Binford, if the Commission wants to rule from the bench that his statement is admissible. I will simply stipulate that the stenographer can take the statement—which would save a trip down here. Time is of the essence on this matter to us.

Chairman Frank: Then, suppose you do stipulate that he makes a statement and we consider that statement part of the transcript in considering your present matter or his present motion to overrule the Trial Examiner as to the adjournment.

Will that be satisfactory?

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Mr. Browning: That will be satisfactory so far as procedure is concerned. Some of the discussion between the Commissioner and Commission counsel is getting into a much larger field, and that is the scope of the issues and what testimony will be relevant.

I learned that theory of Commission's counsel for the first time Thursday afternoon. He was very courteous. We discussed the theory at some length. We used time in between the hearing on Friday to discuss it, and I had gone back to New York Friday night to consider it, to see what its im-

plications are. Certainly it has a most important bearing on the hearings. There is no question about that.

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(The statement by counsel for the Commission above referred to is as follows:)

Mr. Binford: I should like to make a short statement as to the position of Counsel for the Commission in respect to the effect of the evidence thus far introduced and the issues in this proceeding.

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It would seem to be clear that, as alleged in paragraph 63 of the Notice and Order for this hearing:

"The holding company system of The North American Company is not confined in its operations to those of a single integrated public utility system, within the meaning of the Act (the Public Utility Holding Company Act of 1935), and to such other businesses as are reasonably incidental, economically necessary or appropriate to the operations of such integrated public utility system."

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It appears that the public utility holdings and operations of the North American system may be roughly divided geographically as follows:

(1) A group of public utility companies which may be said to be "based on St. Louis and conducting operations within the adjoining states of Missouri, Illinois and Iowa," including the operating electric utility companies of the Union Electric Company of Missouri holding company sys-

tem and including also The St. Louis County Gas Company;

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(2) The electric utility properties and operations of The Cleveland Electric Illuminating Company, which are centered on Cleveland and located wholly within the State of Ohio;

887 (3) The electric utility properties embraced within the holding company system of Washington Railway and Electric Company, serving the District of Columbia and adjacent areas in Maryland and Virginia;

(4) The properties and operations of the system serving parts of Wisconsin and Michigan.

It further appears that none of these geographic groups of companies, or properties and operations, are geographically inter-connected with any properties or operations of any of the other groups, and no two of these groups could, under any construction of the Act, be considered as together constituting an integrated public utility system.

888 In addition to the three geographic groups mentioned, it appears that The North American Company controls the North American Light & Power Company system, which system is not an integrated public utility system.

Furthermore, it appears from the evidence already adduced that, in addition to its holdings in companies which are public utility companies or public utility holding companies, The North American Company, also has three direct non-utility subsidiaries, namely, 60 Broadway Building Corporation, North American Utilities Securities Corporation

—88—

and West Kentucky Coal Company. It has yet to be shown that the retention of the businesses represented by these companies is "reasonably incidental, or economically necessary or appropriate to the operations of (any) integrated public utility system" which The North American Company may retain.

The evidence already adduced also discloses the ownership and control by the companies of The North American system of interests in numerous gas utility properties which do not constitute integrated gas utility systems within the meaning of the Act, and the ownership and control of interests in numerous non-utility businesses, the retention of which, likewise, has not yet been shown to be reasonably incidental, or economically necessary or appropriate to the operation of any integrated public utility system which The North American Company may retain.

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In its answer, The North American Company has indicated a desire to retain as an integrated system certain properties "based on St. Louis and conducting operations within the adjoining states of Missouri, Illinois and Iowa, and one additional integrated system based on Cleveland."

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It would therefore seem that an issue to be determined in this proceeding is the question of what particular properties can be considered as a part of an integrated system "based on St. Louis."

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In respect of the desire expressed by The North American Company in its answer to retain "one additional integrated system based on Cleveland," a second issue will be the determination of whether or not such system may be retained as an "additional system" under Section 11(b)(1), with



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particular reference to the tests laid down by paragraphs (a), (b) and (C) of that Section, and, in this connection I wish to state that it is the position of Counsel for the Commission that paragraph (B) of the (A), (B), (C) paragraphs requires that the whole of each additional system to be retained must be located in the state or states in which the principal system retained is located, or in a state or states contiguous thereto. Therefore, Counsel for the Commission takes the position that, as a matter of law, paragraph (B) precludes the retention by The North American Company of its Cleveland system as an additional system, if a system based on St. Louis and conducting operations within the adjoining states of Missouri, Illinois and Iowa, is retained as the principal system. In the event that the position of Counsel for the Commission upon this point should not be sustained, and paragraph (B) should be so interpreted as not to require this result, an issue will be the determination of compliance of such proposed retention of the Cleveland system with the provisions of paragraph (A) and (C) of the Section.

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Moreover, it may develop that the properties of the North

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American system around St. Louis constitute more than one integrated public utility system and that if certain of these properties are to be retained by The North American Company, they will have to be retained, if retained at all, as "additional systems", and retention thereof will, therefore, have to satisfy the (A), (B), (C) standards. If such additional systems are found to be susceptible of retention under these standards, it will then, if the view of Counsel for the Commission is correct, be doubly obvious that the Cleve-



land system cannot under any construction of the Act be retained as a further additional system.

An additional question will be the determination of what interests in businesses other than that of a public utility company may be permitted to be retained as reasonably incidental or economically necessary or appropriate to the operations of the one or more integrated public utility systems which The North American Company may retain.

The North American Company, in its answer, states that its program does not contemplate "any present change of the Company's investments in the Detroit Edison Company and Pacific Gas & Electric Company," which investments are minority investments. It is the position of Counsel for the Commission that, as a matter of law, the retention of these public utility investments by The North American Company, in addition to the retention of one or more integrated public utility systems, is precluded by the express

—91—

provisions of Section 11(b)(1).

Chairman Frank: Well, you may proceed, Mr. Browning.

Mr. Browning: Now, answering Mr. Bihford's direct question as to whether we would be prepared to put in testimony here, we are not prepared to put in testimony on the St. Louis Company. I can say without any reservation whatsoever that I am not in the slightest degree prepared for that. I can meet him four-square on that issue. I haven't even any idea who the witnesses are. I have not talked to them.

I think all of the lawyers in the room realize that when you are in that stage of the case that you need time.

I want to answer that question just as forthrightly as I can. I had hoped to consider the suggestion of Commission's counsel as to their views on the scope and then to get together with them sometime during those three weeks. Perhaps we can either agree on it or perhaps the matter can be raised in some preliminary way. However, it is an extremely important matter and it is a matter which should be very seriously considered by itself. I can argue it this morning if the Commission wants to; but I prefer not to.

899 Chairman Frank: Which question?

Mr. Browning: The scope of the issues. I am not prepared to argue it.

Chairman Frank: We will take the matter under advisement.

Mr. Browning: Now, do you want me to file an affidavit,

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Mr. Chairman?

Chairman Frank: I do not think so. At least we will advise you if we think that will affect our judgment.

900 Mr. Browning: And I also have the question as to whether it was desired that I file a memorandum of law.

Chairman Frank: There is no occasion to unless you want to do so.

Mr. Binford: Then, if the Commission please, I will avail myself this afternoon of the opportunity of dictating the statement which has been referred to in the record here. I will be glad to prepare that statement.

(Thereupon, at 11 o'clock a. m., the arguments were concluded and the Commission adjourned.)

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BEFORE THE

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**Securities and Exchange Commission**

File No. 59-10

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**IN THE MATTER***of***THE NORTH AMERICAN COMPANY, et al.**

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Hearing Room 1103,  
Securities and Exchange Commis-  
sion Building,  
Monday, July 15, 1940,  
Washington, D. C.,

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902

Met, pursuant to notice of the Commission, at 10:00  
o'clock a. m.

Before:

W. W. SWIFT, Trial Examiner.

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Appearances:

SULLIVAN & CROMWELL, by S. PEARCE BROWNING, JR.,  
and CHARLES S. HAMILTON, JR., 48 Wall St., New  
York, N. Y., for Respondents.

RALPH C. BINFORD, Attorney for the Securities and Ex-  
change Commission.

## PROCEEDINGS

The Examiner: The hearing will be resumed. Are you ready, Mr. Browning?

Mr. Browning: Yes, sir. If the Examiner please, it will be recalled that at the last hearing which I believe took place on June 20, we moved for an adjournment for the preparation of our case and the Examiner then granted us an adjournment until today.

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At that hearing, and when requesting an adjournment, I promised that I was going back to New York and work very hard, do the best we could, so that we would be in a position to put in as much evidence as possible.

I feel that in fairness to ourselves I must state for the record what happened subsequently. As soon as I returned to New York I received a telegram that an appeal had been taken from that decision of the Examiner and I was forced to come down to Washington again and argue the matter before the full Commission on the following Monday.

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So far as I know, no decision has ever been handed down on the appeal and the hearings are therefore reconvening pursuant to the original ruling by the Examiner.

I would like to point out in fairness to ourselves that not only was I brought back to Washington to argue about the adjournment, but that throughout the entire three weeks' period I have never known from day to day when the hearings were going to reconvene.

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For example, one of the points which I mentioned on June 20 was the fact that it was important that I be able to leave for the Middle West. I have never been able to do

so because I didn't know from day to day when these hearings would reconvene.

I do want to say, however, that we have made a great deal of progress, we have got witnesses ready to put on the stand and that we are going forward and do our very best. We will go forward until we need more time to prepare the rest of our case.

Turning to another matter, the Examiner will recall the argument at the last hearing with regard to the Commission's exhibits, the question as to whether the Commission could offer all of this material and not be bound by it, and that the Examiner directed that briefs be ready by the adjourned hearing—— 908

Mr. Binford: (Interposing) I beg your pardon. I think the record doesn't show any determined time as to when those briefs were to be ready.

Mr. Browning: I will gladly accept that correction. My understanding was that they were to be ready. We have our brief ready, Mr. Examiner, and we are glad to file it.

(Discussion off the record.)

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Mr. Browning: In accordance with your ruling, Mr. Examiner, we are filing ten copies of our brief in this matter.

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The Examiner: All right, thank you. I will see that they are filed and taken care of.

Mr. Browning: We assume that counsel for the Commission will furnish us with their brief on this matter within a reasonable time.

Mr. Binford: Very easily, within ten days.

Mr. Browning: I might say in that connection I don't want to ask you to take less time than you want. I just wanted some estimate on your part.

The Examiner: Ten days is satisfactory, is it?

Mr. Binford: That is satisfactory to counsel for the Commission.

The Examiner: All right.

Mr. Browning: That is satisfactory to counsel.

The Examiner: All right.

911 Mr. Browning: The Examiner will recall that at the last hearing the Commission's staff offered in evidence the 20-foot bookshelf of documents and statistical material. Our review of those exhibits is far from completed.

It seemed to me that the first step was to get an index so I arranged to have people come down to Washington to get that index for me. The preliminary and quite incomplete index, because it doesn't give all the details, is 57 pages long, single-spaced.

The Examiner: That is the index?

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912 Mr. Browning: Yes, Mr. Examiner, and that is quite incomplete. We have been endeavoring to get to this matter but have not been able to make any real progress with it so that we will have to devote considerably more study to those exhibits later.

What we have in mind is that it will be possible to simplify certain of the material and I am sure that Commission's counsel and ourselves will have no trouble agreeing on that, but to work it out properly will require several weeks' work on our part.



I should like to take up now another development, Mr. Examiner, since the close of the last hearing. It will be recalled that at the last hearing the Commission's staff proposed to place in the record a so-called statement of position on their part which was not a statement of position by the Commission but rather of particular counsel for the Commission, and that upon objection the Examiner ruled that such statement should not be admitted.

It so happened that this matter came up at the argument before the full Commission on the question of adjournment 914 and at that argument one or more of the Commissioners indicated that they felt that it might assist the hearings if such a statement went into the record.

Accordingly I stated that I had no objection whatever to taking the matter up and discussing it at that time and it was finally arranged that counsel for the Commission would read the statement into the record that afternoon by giving

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it to the reporter. That has been done and the statement is now a part of the record.

Subsequently I received the following letter from the 915 Commission, with which letter I think the Examiner should be familiar:

"By direction of the Commission——"

Mr. Binford: (Interposing) Pardon me: May it please the Examiner, I object to reading by counsel of the letter into the record unless the letter, itself, is offered in evidence, unless I first have opportunity to examine it to know whether there is any objection to it.

(Letter passed to counsel.)



*Colloquy*

The Examiner: Let the record show that the letter, at least a copy of it, was presented to Mr. Binford for examination.

Mr. Binford: I have no objection to the offering of the written letter in evidence.

Mr. Browning: If the Examiner please, I do not see that this question of offering in evidence—the letter was a formal demand for a statement of position by the Respondent as to the issues in the case. There had already been—

917 Mr. Binford: (Interposing) I still object to—

Mr. Browning: (Interposing) Could I just finish?

The Examiner: Let me ask this question, is there any

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dispute about the accuracy of this copy that you have examined? If there is I would like for it to be compared with the copy in the Commission's files and see what the situation is.

Mr. Binford: Subject to later verification as to this being a true copy of the original of this letter, and a right at that time to object to it as not, I have no objection to the copy  
918 being offered in evidence.

Mr. Browning: As to correctness of the copy, I shall, of course, be delighted to have Mr. Binford verify that at his convenience.

Mr. Binford: I object at this time to the statement by counsel as to the legal effect of it or as to any other matter of its contents, other than mere identification of the letter. The letter, itself, would make the best evidence.

The Examiner: Is there any objection on your part to introducing the copy of this letter in evidence after you have completed your statement?

Mr. Browning: I have no objection to introducing it in evidence for the limited purpose of showing that such a letter was received by us as a statement by the Commission. If I may offer it for that limited purpose, I will be glad to do so.

The Examiner: Does that meet your objection, Mr. Binford?

Mr. Binford: I have no objection on that ground.

The Examiner: All right, you may proceed with your statement and later we will receive the letter with the reservation which you made. 920

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Mr. Binford: May it please the Examiner, what I am objecting to principally at this time is a statement by counsel as to the contents of the letter. The letter, or a copy thereof, is available to be introduced in evidence.

Mr. Browning: I think I go along with Mr. Binford on that and that the letter will speak for itself in the record.

The Examiner: Well, of course, the letter will speak for itself, but I will let you read from the letter if you need to do so in connection with the statement you are making. 921

Mr. Browning: My suggestion is simply this, that since the position of counsel is now a part of the record, I would feel it was the best procedure to have this letter a part of the record and I offer this letter simply to show the step that was taken by the Commission, itself.

The Examiner: All right, the letter is admitted in evidence as Respondent's Exhibit 1.

Mr. Browning: The record shows, Mr. Examiner, does it not, that it is offered only for the limited purpose of showing the Commission's statement to us?

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*Colloquy*

The Examiner: Yes. That is the reservation under which it is offered and received.

(The document referred to above was marked Respondent's Exhibit No. 1 and received in evidence.)

Mr. Browning: As the Examiner has noted from this letter, Respondent's Exhibit 1, the Respondents were called

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upon or requested to furnish a statement to the Commission on or before July 5, 1940. In accordance with that request the Respondents did furnish a statement which is contained in a letter from Sullivan & Cromwell, addressed to the Commission, dated July 5, 1940, and I should like to read this letter, if I may.

Mr. Binford: I object on the ground that the letter, itself, is the best evidence. Further, counsel should have an opportunity to examine the letter and see if there are other grounds for objection.

(Document passed to Commission's counsel.)

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Mr. Binford: Without conceding that the letter offered in evidence, to be more exact the carbon copy of the letter offered in evidence, having been addressed by counsel for the Respondent to the Commission, is in any respect a correct statement of the issues, and without conceding that the introduction of any evidence along the lines suggested by the letter is permissible, in view of the fact that The North American Company has heretofore filed an answer, as have the other Respondents, as a matter of law in connection with the notice and order filed by the Commission to determine

the issues in this case until one or the other is admitted, I have no objection to the letter going in evidence as the reply sent on behalf of the Respondents to the letter of the Commission which has heretofore been offered in evidence.

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The Examiner: Is that the purpose for which you produce the carbon copy, Mr. Browning?

Mr. Browning: In the first place as regards the carbon copy, the original of the letter is in the Commission's files. I should be very glad to—

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The Examiner: As I understand, counsel has withdrawn his objection on the ground of the best evidence rule, have you not?

Mr. Browning: I understand he is reserving—

Mr. Binford: (Interposing) Insofar as this is a carbon copy, I am making no reservation.

The Examiner: All right.

Mr. Browning: If I understood counsel correctly, he wanted to reserve his right to compare this with the original in the Commission's files and make any correction from that original.

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Mr. Binford: You have no objection to that?

Mr. Browning: I have no objection whatever to that.

As to the second point which counsel makes, there now appears in the record a statement by the Commission's counsel on this subject and I am offering this letter for the purpose of showing the statement which we have made on the same subject.

Mr. Binford: If it is offered for that sole purpose I have no objection.

*Colloquy*

The Examiner: Very well. With that exchange of you gentlemen in mind, the letter is received as Respondent's Exhibit No. 2, subject to the right to compare it with the original and correct it if any corrections are necessary.

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(Document referred to was marked Respondent's Exhibit No. 2 and was received in evidence.)

929 Mr. Browning: Mr. Examiner, this letter deals with certain fundamentals of the case and accordingly I should like to read it.

"Securities and Exchange Commission,  
Washington, D. C.

"Re: The North American Company and its Subsidiary Companies—File No. 59-10

"Dear Sirs:

"This is in reply to your letter of June 27, 1940.

**I.**

"In its order instituting the present proceedings, dated March 8, 1940, the Commission stated that the purpose of the hearing was to determine

"“(1) such issues, if any, as may arise from the allegations of Parts I to V hereof, inclusive, and the answer or answers filed thereto by the respondents herein or any of them as hereinabove provided, and by any other party or parties hereto as hereinafter provided; (2) what action, if any, is

necessary and shall be required to be taken by the respondents herein, or any of them, to limit the operations of the holding company systems of each of the registered holding companies hereinbefore named to a single integrated public-utility system, and to such other businesses as are rea-

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sonably incidental, or economically necessary or appropriate to the operations of such integrated public-utility system; (3) pursuant to such application as may be made herein, the extent to which each of the registered holding companies hereinbefore named shall be permitted to continue to control one or more additional integrated public-utility systems as provided by Section 11(b) (1) of the Act; and (4) pursuant to such application as may be made herein, the extent to which any of the respondents will be permitted to retain any interest in any business (other than that of a public-utility company as such) as provided by Section 11(b) (1) of the Act.

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“The material issues arising from the allegations of Parts I to V of the order and notice of hearing dated March 8, 1940, and the respondents’ answers thereto, arise from the allegations of paragraph 63 of the order and notice of hearing and paragraphs 2 and 7 of the answer of The North American Company (and corresponding sections of the answers of the other respondents).

“Paragraph 63 of the order and notice of hearing states that it appears to the Commission that



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*Colloquy*

"The holding company system of The North American Company is not confined in its operations to those of a single integrated public utility system within the meaning of the Act, and to such

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other businesses as are reasonably incidental, economically necessary or appropriate to the operations of such integrated public utility system.'

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"Paragraph 2 of the answer of The North American Company states:

"2. In answer to paragraph 63 of said order, respondent alleges that the provisions of the Act are so vague and uncertain that the respondent does not have knowledge or information sufficient to form a belief as to what constitutes a single integrated public utility system within the meaning of the Act, or as to what constitutes ~~such~~ other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such system within the meaning of the Act.'

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"~~Paragraph~~ 7 of the answer of The North American Company states in part:

"The respondent, on information and belief, alleges that Section 11 (b) (1) of the Public Utility Holding Company Act of 1935, and any other provisions of said Act which may be used to implement the purposes of said Section 11(b) (1), if and to the extent that they purport to require action to

be taken by the respondent (including the divestment of control, securities or other assets) to dispose of its valuable investments or any substantial part thereof or to limit the operations of any of the registered holding companies named in said

—106—

order to a single integrated public utility system, and to such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public utility system, are invalid, void and of no effect in that they violate and contravene the provisions of the Constitution of the United States and the Amendments thereto, \* \* \*.

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“Thus the issues, broadly stated, arising from the order and notice of hearing and the answers thereto, and Section 11(b) (1) of the Act, from which all of the Commission’s authority to institute and maintain the proceedings must be derived, are:

“1. Whether the holding company system of The North American Company is or is not confined in its operations to (a) those of a single integrated public utility system within the meaning of the Act, (b) such additional integrated public utility systems as meet the requirements of Section 11(b) (1) of the Act, and (c) such other businesses as are reasonably incidental, or economically necessary or appropriate to the operations of such integrated public utility system within the meaning of the Act.

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*Colloquy*

"2. Whether, if the provisions of Section 11(b)(1) are to be or can be applied to the holding company system of The North American Company, and if the Commission shall so find, and that their application

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requires The North American Company or any of its subsidiaries to divest itself of any valuable investment, any order of the Commission for such purpose under Section 11(b)(1) is constitutional.

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## II.

"Accordingly, the first issue, as we understand the proceeding, and therefore the first step in the administrative process, is a defining of The North American Company system's utility properties in terms of single integrated systems; with the further determination of whether any of such systems, if it be found there is more than one, meet the requirements for 'additional' systems.

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"The statutory definition in Section 2(a)(29) furnishes the following characteristics of 'a single integrated public-utility system':

"(i) *Capability of physical interconnection*.—'physically interconnected or capable of physical interconnection',

"(ii) *Economy of operation*.—'under normal conditions may be economically operated as a single interconnected and coordinated system';

"(iii) *Single region*.—'confined in its operations to a single area or region, in one or more states', and

*Colloquy*

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"(iv) *Size*,—'not so large as to impair (considering the state of the art and the area or region affected) the advantages of localized management,

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efficient operation, and the effectiveness of regulation'.

"Manifestly, the application of these norms or characteristics of a 'single integrated public-utility system' to the operating subsidiaries and groups of subsidiaries of The North American Company, if they can be applied at all at this time, requires the most careful and exhaustive investigation into the facts concerning the physical properties, nature and method of operation, area or region of service, type of management and effectiveness of state regulation for each company in the North American system.

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"If the Commission should find that there are two or more single integrated systems it must next apply the (A), (B) and (C) standards of Section 11(b) (1) in order to determine whether any such systems may be retained as 'additional integrated systems', and evidence as to the properties and activities of the respective companies would be requisite on this issue.

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"The next issue arising in any attempt to apply Section 11(b) (1) to the North American system is a determination of what businesses are found in the holding company system, in addition to 'a single integrated public-utility system' and such 'additional integrated public-utility systems' as meet the requirements of Section 11(b) (1), and whether such other busi-

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*Colloquy*

nesses 'are reasonably incidental, or economically necessary or appropriate' to the operations of the 'integrated public-utility system'.

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"The North American Company owns a controlling interest in The North American Light & Power Company, and there is, therefore, involved in the case also the question of whether the operating properties of The North American Light & Power Company system, or any of them, can be combined with any of the properties of The North American Company system. The definition of a single integrated public utility system in paragraph 2(a) (29) provides that electric properties may constitute a single integrated system *'whether owned by one or more electric utility companies'*. Accordingly, if any of the properties in The North American Light & Power Company system meet the statutory tests, alone or in combination with any of the properties or groups of properties of The North American Company system discussed above, such properties of The North American Light & Power Company could be deemed a part of The North American Company integrated system or systems.

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## III.

"Should the Commission hold that Section 11(b) (1) requires the North American Company to dispose of any of its assets, there is raised by paragraph 7 of its answer the fundamental issue as to whether Section 11(b) (1) is constitutional. This necessarily involves the issue of whether the North American

Company and its subsidiaries are subject to the jurisdiction of the Federal Congress and the Commission, whether Section 11(b)(1) is not an unlawful delega-

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gation of legislative power, whether without violating due process of law, Congress and the Commission may require The North American Company or any other respondent to dispose of any of its valuable assets lawfully acquired, and whether such action is not a usurpation of the powers reserved to the states under the Tenth Amendment and otherwise in violation of the Constitution. The determination of such constitutional issues, both by the Commission and by the Courts upon any subsequent appeal, should be made upon a record giving all the necessary facts.

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“Accordingly, on the constitutional issues alone the evidence should show all of the facts concerning the property, business and operations of The North American Company and each of the companies in its holding company system and the intercorporate relations between them, so that it can be determined whether any of them is engaged in interstate commerce and, if so, the extent thereof, and whether their operations directly affect interstate commerce and are therefore subject to the jurisdiction of the Federal Congress or of the Commission, and whether the continued ownership by The North American Company of all of the assets now comprising its system burdens or harmfully affects interstate commerce, and whether, in the event the Commission should order The North American Company or any of its subsidiary com-

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*Colloquy*

panies to divest themselves of any of their assets, such order is a proper and reasonable exercise of jurisdic-

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tion, whether any abuses or problems exist among the companies in The North American Company system which would justify such a divestment order, the extent to which any such divestment would harm The North American Company and deprive it of property without due process of law, and whether any such divestment is reasonably and appropriately designed to accomplish any legitimate Federal objective, and whether Section 11(b) (1) does not in any case constitute an unlawful delegation of legislative power.

## IV.

"The foregoing, as we understand it, sets forth substantially the basic issues. In addition, it should also be noted that certain issues of fact arise from paragraph 1 of the answer of The North American Company. There will also arise, of course, from time to time, incidental issues as to matters of interpretation and the like, to which we do not refer at this time.

"The program set forth in Part III of The North American Company's answer cannot be considered as limiting or narrowing the scope of the issues in this proceeding. That program is based entirely upon the hypothesis that the steps therein set forth would be voluntary, with the executives of The North American Company enabled to devote their full time to such matters and without fixed limitations of time in which the steps might be completed. The Company proposed

such voluntary program in good faith, and in the hope of a constructive disposition of this proceeding, and

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still believes that such voluntary action would be preferable. However, the Commission, by denying respondent's motion to hold these proceedings in abeyance pending the consummation of such voluntary program, refused to permit respondent to proceed therewith and instead elected to litigate the issues. The Commission has no power to require The North American Company to take any step except as provided in Section 11(b)(1), and any such order, under Section 11(c) must be complied with within one year, or at the maximum two years, of the date of the order. Such procedure, namely by order rather than voluntary, and with time limitations rather than when conditions permit, is wholly foreign to the procedure suggested by The North American Company when it stated in Part III of its answer certain steps which it proposed to take if, as and when they could be consummated. Accordingly, the program in Part III of The North American Company's answer cannot be regarded as limiting the scope of the issues in the present hearing.

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"It may be further noted that counsel for the Commission has taken the position that, as a matter of law, The North American Company's investments in The Detroit Edison Company and Pacific Gas & Electric Company may not be retained by it. As set forth in paragraph 6 of the Commission's notice and order, such Companies have filed applications for exemption

958

*Colloquy*

under Section 2(a) (8) of the Act and such applications are pending and undetermined. Accordingly,

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neither of such Companies can be regarded as a subsidiary of The North American Company for any purpose at this time. Since Section 11(b) (1) refers to 'such action as the Commission shall find necessary to limit the operations of the *holding company system* \* \* \* and 'holding company system' is defined in Section 2(a) (9) as including 'any holding company together with all its *subsidiary companies* \* \* \*', it would seem clear that the investments in The Detroit Edison Company and Pacific Gas & Electric Company are not involved in the present proceeding, nor could they be dealt with appropriately until the primary question of their status has been determined. Accordingly, while we do not agree with the legal position of counsel for the Commission, it is the position of The North American Company that in any case the status of such investments is not at issue in the present proceeding.

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## V.

"We believe that the foregoing statement, which is made on behalf of respondents, The North American Company and its subsidiaries, covers the four questions contained in your letter of June 27, 1940. However, such questions may be taken up in order, as follows: As to question 1, we do not consider that the issues have been correctly stated by counsel for the Commission in his statement submitted for the record on June 21, 1940, except in so far as certain

issues specified by him are included in the issues set forth in this reply. As regards questions 2, 3 and 4, respondents consider to be at issue the retention of

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all the utility properties of The North American Company system and all of the businesses which the Commission finds to be in such system, whether as a single integrated system or as additional systems, and all questions which may arise under Section 11(b)(1), including the (A), (B) and (C) standards thereof." 962

964

BEFORE THE

**Securities and Exchange Commission**

File No. 59-10

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IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

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965

Hearing Room 1102-A,  
Securities and Exchange Commis-  
sion Bldg.,  
Monday, August 5, 1940,  
Washington, D. C.

Met, pursuant to recess at 10:00 o'clock a.m.

Before: W. W. SWIFT, *Trial Examiner.*

966

## Appearances:

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell,  
48 Wall Street, New York City, N. Y., Attorneys for  
the Respondents.

S. PEARCE BROWNING, JR., of Sullivan & Cromwell, 48  
Wall Street, New York City, N. Y., Attorneys for the  
Respondents.

RALPH C. BINFORD, and E. M. CALKIN, Attorneys for the  
Securities and Exchange Commission.

*Elmer L. Lindseth—By Respondents—Direct*

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# PROCEEDINGS

The Examiner: The hearing will come to order.

Mr. Hamilton: Mr. Lindseth!

Whereupon, ELMER L. LINDSETH called as a witness on behalf of the Respondents, being first duly sworn, was examined and testified as follows:

*Direct Examination by Mr. Hamilton:*

968

Q. Will you give your name to the reporter? A. My name is Elmer L. Lindseth.

Q. And your address? A. Hudson, Ohio.

Q. You are connected with Cleveland Electric Illuminating Company? A. Yes, I am; I am technical assistant to the President of the Cleveland Electric Illuminating Company.

Q. Will you describe your various functions and services with the Cleveland Electric Illuminating Company since you first began your connection with the company? A. I began working for the Cleveland Electric Illuminating Company in 1925, temporarily employed, while still in college, on a job testing power plant equipment.

969

At the completion of my work in college I returned to the company in a permanent capacity as a junior tester in the

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Production Department, and in that job worked in the testing of power house equipment, the calculation of system efficiencies and economies, the design calculations of heat balance, and other engineering calculations of power plants, and similar duties—strictly a subordinate position.



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*Elmer L. Lindseth—By Respondents—Direct*

In 1927 I was made production engineer for the company, in which position I was in charge of the technical engineering for the operation of the power plants of the system.

The production engineer was responsible for the efficiency of operation of the system; the economical allocation of load between power plants; certain of the design phases, particularly those influenced by efficiency and economy; the maintenance of certain types of equipment; and in that capacity I had, at various times, a staff of from 20 to 30  
971. engineers, assistants and the like.

In 1937, I became assistant to the executive engineer for the company. The executive engineer of the company is in charge of all phases of the company's engineering, mechanical engineering, electrical engineering, civil engineering, design, construction, research, joint wire relations with other utilities, and the statistical departments of the company.

I served as assistant to the executive engineer.

972

During this period I made a comprehensive investigation of the company's sales and advertising policies, the accounting therefor, the results obtained, the methods pursued, the

—592—

measure of results—in short, all phases of the sales promotion and advertising business of the company.

During 1938 and 1939, in connection with an investigation of the company by a firm of engineers employed by the City of Cleveland, in connection with a report to be prepared for the basis of a rate ordinance, I was in charge of the company's parallel report on all phases of the operations of the company, its accounting, its fixed asset accounts, depreciation, business promotion, rates, service, all phases of the

company's business as would be necessary to form the basis for an adequate ordinance to regulate the rates of the company.

Shortly thereafter, in 1939, and the early part of 1940, I was in charge of a staff of engineers which at times reached more than 200, in connection with an inventory and appraisal of the property of the company devoted to the service of the City of Cleveland, and in that connection participated in the conferences with the Public Utility Commission of Ohio and the Council of the City of Cleveland, since this inventory and appraisal was being performed in accordance with the requirements of the Public Utility Commission of Ohio and the City Council of the City of Cleveland.

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This investigation, too, embraced all phases of the company's business, operating expense, fixed assets, depreciation policies, rate-making and similar phases.

I participated in the hearings and negotiations, the con-

—593—

ferences with the Public Utility Commission and with the City Council of the City of Cleveland, and this culminated in a rate ordinance which terminated the case.

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During this period I became technical assistant to the president of the company, in which capacity I now serve, in an advisory capacity to the president in technical and operating matters.

Q. Your service with the company has been continuous since 1926? A. Yes, since August, I think, 1926—yes, August, 1926.

Q. Now previous to your service with the company, what had been your business experience? A. Well, I had worked

976

*Elmer L. Lindseth—By Respondents—Direct*

summers while going to college, for the New York Central Railroad Company and for the National Acme Company. In the former of those, I had been in electrical maintenance and construction work, in line gangs, and had served as a ground man in a line gang; and in the latter of them, the National Acme Company, I had been a machine operator.

Q. Will you state your education? A. I was educated in the public schools in Cleveland. I was graduated from Miami University in 1923 with an A.B. Degree; from Case School of Applied Science in 1925, with a degree of Bachelor of Science; and from Yale University in 1926, with a degree of Master of Science.

Q. You are a registered professional engineer in Ohio?

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A. Yes, I am a registered professional engineer in the State of Ohio, No. 2656.

Q. In order that we may identify the names of the companies as to which your testimony will be directed, would you give the names of the companies comprising the Cleveland group, and in a word or two state the business which they do? A. The companies in the Cleveland group are three in number, the Cleveland Electric Illuminating Company, which is engaged in the electric utility business, and incidental thereto, the steam heating business in the City of Cleveland.

There are two subsidiaries of the Cleveland Electric Illuminating Company—the Power & Light Building Co., which owns title to the office building in which the offices are located, and the Ceico Company, which is an incidental subsidiary devoted primarily to the servicing and maintenance

*Elmer L. Lindseth—By Respondents—Direct*

979

of meters on consumers' premises, but incidentally holds title to real estate which is temporarily acquired for construction and is to be disposed of.

Q. Both of the latter two companies you have referred to are direct subsidiaries of Cleveland Electric, is that right?

A. Both are wholly-owned subsidiaries, and neither is a public utility.

Q. Now in order to get an overall picture of the area which the Cleveland Electric Illuminating Company serves, would you indicate briefly the territory served by its electric service? A. Hereafter, in referring to The Company, I

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—595—

will mean the Cleveland Electric Illuminating Company; and when any of the subsidiaries are referred to, I will refer to them by their complete name.

The Company serves a compact industrial and agricultural area in the Northeastern part of Ohio, centering around Cleveland, but including three other Lake cities, Conneaut, Ashtabula, and Fairport.

Mr. Hamilton: I ask that this document be marked for identification as Respondents' Exhibit No. 21.

981

The Examiner: That may be done.

(The document referred to was marked Respondents' Exhibit No. 21, for identification.)

*By Mr. Hamilton:*

Q. Will you explain what Respondents' Exhibit 21 for identification portrays? A. This map shows the territory served by the Company, it being the area outlined by the heavy black line.

982

*Elmer L. Lindseth—By Respondents—Direct*

Q. Has the map been prepared under your supervision?

A. Yes, it has.

Q. The facts shown are taken from the records of the Company, is that correct? A. Yes, the data are definitely from the records of the Company.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit 21.

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Mr. Binford: No objection.

The Examiner: All right, it is received in evidence under the number assigned.

(Respondents' Exhibit No. 21 was received in evidence.)

*By Mr. Hamilton:*

984

Q. Please refer to the map wherever necessary in your testimony. A. The territory shown is along the South shore of Lake Erie in the Northeastern portion of Ohio, and the vertical line at the right of the map is the Pennsylvania-Ohio border. The territory extends Westward from this Pennsylvania-Ohio line about 100 miles, to the point marked Avon, and it has an irregular Southern border, yielding an average depth for the territory of about 17 miles in an aggregate area of about 1,700 square miles.

Q. Now would you explain the significance of the double cross-hatched area which contains the legend "Cleveland and suburbs", on Exhibit 21? A. At the left center of the map, there is a double cross-hatched area labeled, "Cleveland and suburbs", and in parenthesis, "Cuyahoga County". The double cross-hatched area comprises the municipalities shown

in the list of cities and villages up in the legend, a substantial number, probably 50, which comprise Cleveland and immediate environs. In fact, that list includes all of the cities and villages in Cuyahoga County.

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The portion double cross-hatched, not only in Cleveland but throughout the map, is territory in which the distribution facilities are so many in number as to make it impractical to portray the facilities in the one-line diagram and it is intended that double cross-hatched areas be regarded as having facilities available to all portions of the city. 986

The single cross-hatched areas, that is, lines going in only one direction, are incorporated municipalities, but are not necessarily of such population density as to justify lines of such frequency that they can not be portrayed. So that there, the distribution facilities are shown, even though the area is an incorporated municipality.

Q. Now there appear on the map a number of letters, such as LD and HR. Would you mind explaining the significance of those letters? A. If you will refer to the left center of the map again, the portion which is Cleveland, those symbols of two letters are the symbols for distribution sub-stations, or transmission sub-stations, or power plants, and are a part of the company's code of identifying properties and lines. 987

For example, the symbol "LS", near the large circle, labeled "Lake Shore", is the abbreviated symbol for Lake Shore power plant.

Similarly, just below, the symbol "SC" is the abbreviated symbol for St. Clair sub-station.

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*Elmer L. Lindseth—By Respondents—Direct*

Throughout the map this code is embodied, and it conforms with the Company's records for identifying property.

Now Cleveland is the commercial and trading center of this area. The population of the entire area is about 1,400,000 people.

Q. That is, the entire area served by the Company? A. The entire area in which the Company serves.

989

Of this 1,400,000, about 1,215,000 is in Cuyahoga County alone, in which is located the city of Cleveland, the population of which is 875,000.

Cleveland distributes to the territory, and the territory in turn produces some products marketed in the Cleveland markets.

990

Of the total area served by the Company, a little over 500 square miles is shown cross-hatched, and is incorporated territory. The uncross-hatched sections are about 1,156 square miles, and are, by our definition, rural, although it should be pointed out that certain of the territory which is cross-hatched and is an incorporated municipality, is in fact rural in the popular conception of what is rural.

Q. If we may go back for just a moment, are your population figures based on Census figures? A. The population figures are preliminary 1940 Census data.

Now this territory served comprises a little over 4 per cent., 4.2 per cent. of the area of the State of Ohio. The

—599—

population contained therein, 1,400,000 people, is about 20 per cent. of the population of the State of Ohio. The electricity sold in the area by the Company and others aggregates about 1,785,000,000 kilowatt hours as of 1939, which is

25 per cent. of the energy sold to ultimate consumers in the State of Ohio last year.

The figures then reveal, first, a high population density, because 20 per cent. of the people in the State reside in 4 per cent. of the area; but more than that, those 20 per cent. of the people used 25 per cent. of the electric energy sold to ultimate consumers in the State of Ohio last year.

Q. Is Cleveland the economic center of the territory shown as being served by the Company? A. Cleveland, as would be expected, is the economic center of this territory. The roads converge on Cleveland, the railroads, the bus lines converge on Cleveland, and the territory in reality is a single wholesale area, and in substantial measure a single retail area.

992

A substantial portion of the people who actually work in downtown Cleveland live in these surrounding townships, and even in adjoining counties, and with modern means of transportation they travel to work by automobile, bus, railroad, rapid transit, and other means of public transportation.

Cleveland, in keeping with the trend in certain other large cities, is decentralizing; that is, population is moving out of Cleveland to the suburbs; industry, in some measure,

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is building new plants not inside Cleveland, but in the industrial suburbs and adjoining communities.

For example, the population of Cleveland in 1930 was 900,000 people, by official Census; by 1940, that population had declined to 875,000 people in municipal Cleveland, which is the compact inner municipality.

994

*Elmer L. Lindseth—By Respondents—Direct*

Cuyahoga County, however, has increased in population in the same period, as have Geauga County, which is a county immediately to the East, and Lake County, which is a county to the East along the Southern shore of Lake Erie. These have increased—in Lake County, from 41,000 to 48,000; and in Geauga County—from 15,000 to 17,000 population.

995

These main highways which serve the territory are, the most important of them, 11 in number, United States and State routes, which do converge on the center of Cleveland.

The distances are not great. From the center of Cleveland, which is mathematically that circle described as "PS" in the center of the map, right under the symbol "Lake Shore" that symbol is "Public Square sub-station" of the Company, and is located on the Public Square of the City of Cleveland. The distance from there to the Western extremity is about 25 miles, and to the Avon plant, 23 miles, a distance that is ordinarily covered in something less than 40 minutes.

996

To the extreme Eastern limits of the territory, the Pennsylvania-Ohio line, is about 75 miles, and to Conneaut, the city in the upper right-hand corner of the diagram, the distance is 72 miles, and is normally covered in something less than 2 hours.

Q. Now if you will explain the meaning of these various names that appear on the exhibit, No. 21; for example, the name "Geneva" appearing in the right-hand upper section? A. Names in the type face shown by the word "Geneva", or immediately above, "Geneva-on-the-Lake", those names are the names of incorporated municipalities. Some are cities, some are villages.

Q. These names don't represent all the towns and villages in the entire territory, but rather, the larger towns and cities or villages, is that correct? A. No, I think rather that every incorporated municipality outside Cuyahoga County does have located near it on the map, its name. The large number of them in Cuyahoga County makes it impractical to put them on the map, and they are shown in the legend. I think every municipality served is indicated on the map by title.

The distance to some of these other outlying communities, Jefferson, for instance, which is just below Ashtabula, is 59 miles from the center of Cleveland; Rock Creek, just below it, is 53 miles; Chardon, in the right center of the map, which is the County Seat of Geauga County, is 30 miles from the

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—602—

center of Cleveland, normally about 50 minutes of travel.

Because this territory is one rather densely populated and has adequate roads, there are likewise numerous railroad facilities, and the territory is served by 7 railroads: the New York Central; the Baltimore & Ohio; the Big Four; the Erie; the Nickel Plate; the Pennsylvania, and the Wheeling & Lake Erie.

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Four of these use a single passenger terminal in the center of Cleveland on the Public Square, and two of them, the New York Central and the Big Four, are electrified, taking service from the Company from, roughly, the Eastern limits of Cleveland to and through Cleveland to the Western limits of Cleveland.

While there are numerous private airports in the territory, a single mainline commercial airport serves the entire territory, and that is the airport located in Cleveland, from which some 214,000 passengers cleared last year.

1000

*Elmer L. Lindseth—By Respondents—Direct*

Q. What are the population characteristics of the territory served? A. These 1,400,000 people to which I have referred, of which 1,200,000 live in Cleveland, are families of industrial, commercial and agricultural interests.

Last year a survey showed that there were about 325,000 families in Cuyahoga County. The 1930 Census showed that 28 per cent. of the family heads in Cuyahoga County were native Whites, of native parentage; 26 per cent. were White, of foreign or mixed parentage; 40 per cent. were foreign-

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born White; and 6 per cent. Negro.

Now as indicative of the character of the community, the residential use of electricity in 1939 for these consumers was 924 kilowatt hours per consumer. In the United States as a whole that year, the average use per residential consumer was 897. So that the average use per residential consumer in this territory is slightly higher than in the United States as a whole.

1002

Q. By "this territory" you mean the entire service territory? A. The entire territory in which the Company serves.

Q. Shown on the map? A. Yes. And this is the more significant, perhaps, when it is considered in the light of the availability of natural gas in this territory where the development of the electrical cooking load and the electrical water-heating load is definitely less than in many other communities where natural gas is not available at low cost.

Further, as evidence of the character of this community, the average family income in 1929 was slightly over \$2,000. By 1932 this had dropped to \$1,400; and in 1933, it had further dropped to \$1,243.

*Elmer L. Lindseth—By Respondents—Direct*

1003

In Cuyahoga County, the number of residential telephone subscribers was about 155,000 last year. That is, the number

—604—

of telephone subscribers was less than one-half of the number of families in the community.

The number of direct relief cases this year, May 1940, was 33,900, or the ratio between the number of relief cases and the number of families was about one in ten.

The number of certified persons in Cuyahoga County employed by the W. P. A. in June of this year was slightly over 26,000, or a number which bears a ratio of 8 per cent. to the total number of families. 1004

The estimated number of jobless people in Cuyahoga County on June 1, was 117,900.

Q. That includes persons on direct relief, does it? A. That does include the persons on direct relief. That is a number which equals roughly 10 per cent. of the population of Cuyahoga County.

Now in addition to Cuyahoga County, to which I have given considerable attention, the Company's territory embraces parts of four other counties. On the extreme West, a portion of Lorain County; immediately to the East and the Southerly part, Geauga County; to the East of the central part of the map, Lake County; and to the extreme right, Ashtabula County. 1005

The territory includes 133 political sub-divisions, 15 cities, 67 villages and 51 townships.

Q. In order that we can get some idea of the relative size of the communities outside of Cleveland proper, would you indicate the cities or incorporated villages having a

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*Elmer L. Lindseth—By Respondents—Direct*

important industrial enterprises; Garfield Heights, a city of 17,000, a middle-class residential suburb; Lakewood, along the shore of the Lake to the West of Cleveland, with a population of 69,000, principally residential, but including some industries; Maple Heights, population 6,700; Parma, population 16,000; Rocky River, 8,000; Shaker Heights, 23,000; South Euclid, 6,000; University Heights, 6,000.

1013 This, I think, completes a description of the cities in the territory. There are a number of villages, 67 in fact, in the territory, ten of them of a population more than 2,500, and in their area are important centers.

With minor exceptions, the Company's service area is continuous, that is, the area enclosed by the outline of this map is served exclusively by the Company with four exceptions.

One is the City of Cleveland proper, in which there is located a municipal plant of 50,000 kilowatts, presently  
 —608—  
 installed capacity; and in which is being installed an additional 37,500 kilowatts, to bring the total capacity to 87,500  
 1014 kilowatts. This plant serves 54,000 customers in a spotty area within the corporate limits of Cleveland, had an annual revenue last year of about \$3,500,000—

Q. (Interposing) That is gross revenue? A. That is gross electric revenue. I had better add that it would be gross revenue alone, because there is some revenue from the sale of steam.

A second exception, to which I have referred briefly, is the City of Painesville, of 12,000 population, served by its own municipal generating and distribution system, which has a capacity of about 8,000 kilowatts, and serves 4,500

1006

*Elmer L. Lindseth—By Respondents—Direct*

population of in excess of 5,000, located, of course, in the territory outlined in the map? A. Outside Cuyahoga County, there are located in Lake County two cities of 5,000 population and above, both shown in the right center at the South shore of Lake Erie, Fairport; and immediately below it, Painesville. Each has a population of about 6,000. The territory indicated as Painesville is not cross-hatched, however, because it is not served by the Company, having a municipal plant within its own limits. It is one of three cities in the territory served by municipal generating plants, the other two being the City of Cleveland, and the third, a city by the name of Berea, shown on the map at the lower left-hand portion of Cuyahoga County, where is shown the symbol "BL".

1007

These two communities, then, Fairport and Painesville, each of 6,000, are the principal cities in Lake County. Excuse me, there is another, Willoughby, shown again as a white area, where there is, however, no municipal generating plant, but a municipal distribution system which buys its energy for distribution from the Company. These are the three cities, then, in Lake County.

1008

To the East, then, in Ashtabula County, is the City of Ashtabula, of 21,000 population, and the City of Conneaut, of 9,000 population.

In Ashtabula there are located docks and facilities for

—606—

Lake shipment; it is an important ore receiving and coal shipping center; with shops of the New York Central Railroad; canneries, manufacturing plants, and it is the center of a substantial greenhouse area.

*Elmer L. Lindseth—By Respondents—Direct*

1009

Conneaut is not different in its general character. It, too, is an important Lake shipping port for iron ore and coal, and has incidental manufacturing.

I have made a misstatement on the population of Painesville, and it should be 12,000, rather than 6,000.

Now the third of these counties, to the East, served by the Company, Geauga County, contains no community of 5,000 population.

Chardon is the County Seat of Geauga County, and has a population of 1,800.

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In these small communities shown, as Chardon, Burton, Middlefield and the like, the population is not high because they are definitely rural communities, although there is industrial and manufacturing enterprise.

In a town like Chardon, there is located the Chardon Rubber Company; in Middlefield, there is likewise a rubber company, the name of which I don't have available.

That, I think, includes the cities and important villages of the three counties to the East of Cuyahoga.

In Cuyahoga County are located 13 cities of 5,000 population and above. The City of Cleveland proper, about which I

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have already talked; the City of Cleveland Heights, of 55,000 population, a residential suburb; the City of East Cleveland, 39,000 population, a residential suburb; the City of Bedford, of 7,000 population, a residential and industrial suburb with several important plants in it; the City of Euclid, up against the shore of Lake Erie, population 17,000, classed as an industrial suburb, where are located such plants as the Chase Brass Company, the General Electric Company, the Addressograph and Multigraph Company, and a number of other

customers, and had a gross revenue from the sale of electricity of about \$225,000.

Q. These figures on gross revenue are, of course, for 1939, are they? A. They are for 1939, yes.

The village of Willoughby, which owns a distribution system only, and purchases energy from the Company, serves 1,400 customers, with an aggregate load of 900 kilowatts, and distributed less than 4,000,000 kilowatt hours last year.

The fourth of these exceptions, the City of Berea, in Cuyahoga County, has a municipal generating and distribution system and serves 1,750 customers, 2,125 kilowatts of capacity, and had an annual revenue last year of about

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—609—

\$114,000.

With these principal exceptions, the territory served is continuous. There are, however, minor additional exceptions in the City of Cleveland where there are three very small utilities, the Cleveland Light & Power Company, the Bradley Electric Light, Heat & Power Company, and the Euclid Doan Power Company.

The first of these, the Cleveland Light & Power Company, purchases all of its electric energy from the Cleveland Electric Illuminating Company, and distributes to consumers in buildings in a limited area downtown.

1017

The second of them—

Q. (Interposing) Just a moment, if you will. Do you know how many customers the Cleveland Light & Power Company has? A. That company has between 300 and 400 customers in a limited area of this congested downtown district, an aggregate load of 1,200 kilowatts, and a sale of less than 4,000,000 kilowatt hours a year.

1018

*Elmer L. Lindseth—By Respondents—Direct*

The second of them, the Bradley Electric Light, Heat & Power Company, purchases some of its electric energy from the Cleveland Electric Illuminating Company, and generates the rest of it. It serves a few more than 500 customers, again in a compact downtown area, largely in buildings owned by interests which own the power plant, with an aggregate load of 1,270 kilowatts, and an annual energy again less than 4,000,000 kilowatt hours.

—610—

1019

The third of them, the Euclid Doan Power Company, serves an area in the Euclid-East 105th Street district. The number of customers is less than 500, the revenue last year from the sale of energy was about \$150,000.

Q. Does it generate its own power or buy it from the Company? A. It does generate some of its own energy, but that which it buys it does not buy from the Company, but buys from the Cleveland municipal light plant.

1020

Now in this area then, with the discontinuities which we have noted, the Company serves a total of 330,000 customers. These customers, as of last December 31, comprised 286,000 residential customers, 42,000 general commercial customers, about 1,800 large commercial and industrial customers, about 100 street-lighting customers, two railways, two other utilities, and about 400 miscellaneous customers.

The Examiner: Does the Cleveland Electric Illuminating Company go into the areas served by these smaller companies which you have mentioned; in other words, does it compete with them?

The Witness: In the case of two of the municipal complaints, Painesville and Berea, the answer is no, we

do not, that in those two municipalities the municipal plants serve exclusively.

In the third of them, in Willoughby, where the new municipal distribution system is owned by the

—611—

village, we do not compete for residential consumers, they serve them exclusively, but we serve the industrial and the large commercial customers, such as a factory which the distribution system owned by the municipality is not in a position to serve.

1022

In the City of Cleveland, proper, the municipal plant owned by the City serves a few limited areas exclusively, in which we have no facilities, in which the Company has no facilities, but generally speaking it serves in a competitive area with the Company, where they both have facilities.

In these territories, then, served by these various small private companies, such as I mentioned last, those are in some measure in buildings privately owned, to which, obviously, we have no access, being served by the owners. They are cases of private plants within a single building having been expanded to take care of the adjacent building, and then a third building across the street, perhaps.

1023

In the Euclid Doan Power Company's area, the Company and the Euclid Doan Power Company, compete for some business, and in some buildings wholly served by Euclid Doan Power Company we do not compete.



1024

*Elmer L. Lindseth—By Respondents—Direct**By Mr. Hamilton:*

Q. Now with the exception of these limited spheres serviced by others, the entire area shown on the map is served solely by Cleveland Electric; in other words, there are no

—612—

other utilities in that area selling to others, is that correct?

A. That is correct, there are no other public utilities that—

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Q. (Interposing) Speaking of electric? A. In the territory served by the Company, electric public utilities.

Mr. Hamilton: May this document be marked as Respondents' Exhibit 22 for identification?

The Examiner: Let it be so marked.

(The document referred to was marked Respondents' Exhibit No. 22, for identification.)

*By Mr. Hamilton:*

1026

Q. Will you explain what Respondents' Exhibit No. 22 for identification portrays? A. This sheet shows certain statistics of the growth of the company. The lowermost curve, the dotted line, is the number of electric customers as of the end of each year, shown in the legend below.

The line immediately above it, the full line, shows the annual peak load in kilowatts. Excuse me, the scale for the lowermost curve is to the extreme right of the chart.

The second curve from the bottom, instantaneous peak load, has its legend likewise at the extreme right.

The third line is the installed aggregate generating capacity of generating plants, with the legend at the extreme

—613—

right.

The fourth, the dash and dot line, shows the total fixed assets of the Company as of December 31, electric and steam, and has its legend the innermost one at the right.

The topmost line shows the net kilowatt hour output from the generating plants on the system, and has its legend at the extreme left of the sheet.

Q. This diagram has been prepared under your supervision? A. Yes, it has.

Q. And the facts shown therein are taken from the Company's records? A. They are.

1028

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 22.

Miss Calkin: No objection.

The Examiner: It is so received in evidence under that number.

(Respondents' Exhibit No. 22 was received in evidence.)

The Witness: We have just referred to the fact that the number of customers of the Company at December 31, 1939, aggregated 330,000.

1029

It will be noted from reference to that lowermost curve that ten years ago, as of 1930, the number of customers was 308,000; about 20 years ago, in 1920, the number of customers was 165,000. That is, in the last 20 years, the number of customers of the company

—614—

has doubled.

In the ten-year decade prior to that, however, the number of customers increased from 30,000 in 1910, to 165,000 in 1920, an increase of  $5\frac{1}{2}$  times.

1030

*Elmer L. Lindseth—By Respondents—Direct*

In the ten years prior to 1910, the scale is here no longer such that we can tell precisely, but the number of customers as of 1900 was probably on the order of 1 or 2 thousand, an increase of 10 or 15 times in the number of customers between 1900 and 1910.

*By Mr. Hamilton:*

1031

Q. Has the development shown by the chart in number of electric customers and also in kilowatt hours of output, been due solely to the growth of the Company's own facilities?

A. No, that isn't quite the case. This growth in number of customers and in output is very largely due to an increase in the company's facilities by growth into theretofore unserved areas, but in some substantial measure is due to the acquisition of properties by purchase.

I say "substantial". In the course of the Company's history there have been acquired by purchase public utilities privately owned or municipally owned in an aggregate amount of about \$6,000,000.

1032

The present total electric property of the Company is of the order of \$140,000,000, and including retirements, it has comprised about \$160,000,000, of which total about \$6,000,000

—615—

have been acquired at various times by purchase.

So it may be said that of the total property which the Company now owns, or at various times has owned, 4 per cent. has been acquired by purchase, and the other 96 per cent. has been built by the Company and extended into theretofore unserved areas.

The number of these purchases, however, is substantial, 29 systems, either small distribution systems, or in several

cases generating plants, with distribution systems; in some cases transmission lines, such as along interurban lines, or electric railways, have been acquired by purchase.

The nucleus of the system, however, was Cleveland, and the growth was a radial outward growth from Cleveland; as communities surrounding Cleveland began to be more densely populated, as there were demands and requirements for electric service, the system just grew.

Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 23 for identification?

1034

The Examiner: Yes.

(The document referred to was marked Respondents' Exhibit No. 23, for identification.)

*By Mr. Hamilton:*

Q. Will you explain what Respondents' Exhibit No. 23 for identification portrays? A. This series of three maps shows the relative size of the area served by the Company

—616—

as of three periods.

Q. Now this series of three maps has been prepared under your supervision? A. Yes, it has.

1035

Q. The facts which are the basis of the maps have been taken from the records of the Company? A. Yes, from the Record Department records.

Mr. Hamilton: I offer this exhibit in evidence as Respondents' Exhibit No. 23.

Miss Calkin: No objection.

The Examiner: The three maps may be received as Respondents' Exhibit No. 23.

1036

*Elmer L. Lindseth—By Respondents—Direct*

(Respondents' Exhibit No. 23 was received in evidence.)

*By Mr. Hamilton:*

Q. Are all three maps, Mr. Lindseth, to the same scale?

A. Yes, these three maps are to the same scale, which is about 6 miles to one inch.

1037

The lowermost map, the territory as of 1940, is precisely the area shown on Exhibit 21, the territorial system map which we discussed earlier in the testimony.

As of 1911, which date was chosen because it represented the point at which the Company changed from a single power plant company to two power plants, transition was from a radial distribution and transmission center with a single plant as the center, to two power plants jointly serving the territory, in which the area served is about 200 to 250 square

—617—

miles, or one-eighth of the present territory served.

1038

The middle map shows the territory served as of 1925, when the company built another of its generating plants, and marks the transition between radial system in these original two power plants, where the transmission and distribution was radially outward, to the point at which the Company began to build a high tension transmission ring surrounding the territory, and began serving customers radially inward as well as radially outward. That area is about 400 square miles, on the order of one-quarter of the present territory served.

The last map, of course, represents the system as it is today.

Q. Have you given your approximation as to the number of square miles in the area shown for 1911? A. Oh, yes; 200 to 250 square miles, about one-seventh to one-eighth of the present territory.

Q. Did the territory shown as served in 1911 comprise the entire Cuyahoga County? A. No, it did not; Cuyahoga County has an area of 450 square miles. The estimated 250 square miles served in 1911 is then something of the order of 55 or 60 per cent. of Cuyahoga County. The facilities of the Company did not extend beyond Cuyahoga County, but did not cover all of Cuyahoga County. 1040

By 1925, the limits of the Company's facilities had not

—618—

yet extended beyond the county line, but neither, yet, had those facilities covered the entire county. 400 square miles were served in 1925, and the aggregate area of the county was 450 square miles.

Very shortly after 1925, the Company served not only all of Cuyahoga County, but began a process of expansion which, within four years, expanded the Company's territory from that shown as existing as of 1925, to the area below it. That is, all of the territory served in 1940 was likewise served by the end of 1929. 1041

Now this period of expansion began in accordance with a well-defined and rather well-developed plan for expansion enunciated just before 1925, and was of two important types.

One was this acquisition of ear by purchase; second, was a tremendous expansion of facilities in the territory that had theretofore been unserved.

To go back a little to the character of this territory, Cleveland was the trade center of this entire area. The dol-



1042

*Elmer L. Landseth—By Respondents—Direct*

lar volume of sales was very substantial. Last year the wholesale trade in Cleveland was \$700,000,000; retail sales were \$400,000,000; and the people in the territory trade in Cleveland for department store sales, wholesale jobbers, factory branches, and the like; and similarly, Cleveland is a substantial market for the products raised in these counties to the East, the agricultural products finding their market in Cleveland.

—619—

1043

The Cleveland newspapers are circulated throughout the territory, and serve substantial portions of it. It was realized by the Company that this was an economic unit which could best be served by a company, a single company, preferably The Company, the Cleveland Electric Illuminating Company, and so it began in 1925 with its plans for expansion.

1044

Shortly after the North American Company acquired control of the Cleveland Electric Illuminating Company, these plans to extend service were made. As early as 1924, a site was purchased at the extreme Western end of the territory for the building of the Avon plant. This site was acquired before that territory was served by the Company.

Similarly, right-of-way was acquired for a high tension transmission line to run to the South and to run over to the West.

Events then followed rather rapidly. It was the middle 20's, and the needs for electric service were extremely great in the territory. The potentialities for business were very marked. The extent to which the territory was served was

negligible, and that service which was there was, by today's standards, of the very poorest class of service.

—620—

Customers were served from either very small, isolated generating plants or, in keeping with the times, customers bought energy from the electric interurban electric railways running through the territory and distributed that energy through systems which they, themselves, had built and they were strictly bailing wire systems.

So that the standard of service was bad, the level of rates was high and the need for unification of the facilities was very, very marked. 1046

By this process of acquisition of properties the Company in about four years acquired all of this territory, built high tension transmission service lines, built the necessary substations and distribution system and altered the service picture completely.

Q. By this period, "four years," are you referring to 1925 to 1929? A. Yes, I refer to 1925 to 1929.

The nature of these properties acquired may, perhaps, be shown by statements as to the size of some of these properties. 1047

Mr. Hamilton: Mr. Examiner, would it be appropriate to have a recess at this time?

The Examiner: I think so. We will have a short recess.

(Whereupon, a short recess was taken.)

The Examiner: You may proceed.

—621—

1048

*Elmer L. Lindseth—By Respondents—Direct**By Mr. Hamilton:*

1049

Q. You testified, Mr. Lindseth, that the Company made a number of acquisitions to the electric property during the period you referred to. What was the character of this electric service in these territories so acquired? A. Actually, the Company bought many of these properties during this expansion period of 1925 to 1929 at the specific request of either the consumers served by these properties purchased or in some cases by the owners of the properties. The period was one when the decline of electric interurban and railroad transportation had already set in.

These interurban lines were in weak financial condition as a result of which the revenue obtained from the sale of electric energy was not even devoted solely to the electrical portions of the business, but was in part bailing out of the transportation phases.

1050

For example, one of the properties purchased, the Cleveland, Painesville & Eastern Railroad had its generating plant at the extreme west end of the system and extended eastward along an interurban line for fifty miles. All the power customers were served from a single transmission line along that right of way and in the event that that line had to be taken out of commission for maintenance, all customers to the east of the maintenance point were without service until the line was fixed.

—622—

Numerous private small companies built distribution lines down roads and into villages adjacent to that interurban right of way, but the character of their construction was very poor, their personnel was decidedly limited because of

the number of customers and the gross revenue just couldn't justify a maintenance or a service organization.

In almost no case did any of these twenty-five acquired properties have twenty-four hour maintenance service. If a transformer were burnt out, it would be repaired the next day by the construction personnel. In the event a primary line was down, it was not even cut loose; it probably just burned itself clear and they let it be until the next day. This Cleveland, Painesville & Eastern Railroad operating through a subsidiary in its electric business, handled its trouble work and consumer service work by the regular construction crew, either before they went to the job in the morning, at noon, or after the construction job was finished in the evening.

1052

There was no trouble organization through the night. There was no trouble organization on Saturdays and Sundays. In the event of major storms, substantial lengths of pole line would be blown down because the construction standards were poor and the period required to restore service was necessarily great because the personnel was so decidedly limited.

1053

—623—

In certain cases, it is recorded in the records of the Company that they pressed into service wiring contractors to help them clear up major cases of trouble. It was strictly a low class of service. As a result requests came to the Company because of the knowledge of consumers of the character of service rendered by the Company, there came these requests for the Company to acquire these distribution systems and put them on the Illuminating Company's standard of service basis.

1054

*Elmer L. Lindseth—By Respondents—Direct*

As illustrative of one of these purchases, I think we can talk about the very first one in this series. That occurred in 1925, in October of 1925. The Company acquired the West Claridon Light & Power Company. The number of customers was just a few more than twenty. They were served on a rural highway leading into Chardon and the purchase price for the entire company was \$4,095.00.

1055

The next purchase in December of that year, the Middlefield Electric Light Company, was bought for \$20,700.00. Obviously the size of the companies and the character of their equipment could not have been of very high caliber for those prices in those days.

One of these plants that was acquired—the Orwell plant—had a small oil engine serving it and after the Company had acquired the plant, but before the property could be taken over, the engine caught fire and burned.

Numerous purchases followed in close sequence. In February of 1926, the company purchased the Burton Public

—624—

1056

Service Company serving the Village of Burton at a price of \$12,500. In April, 1926, two months later, the Thompson Light & Power Company serving Madison and Montville townships, for about \$15,000.00. This company had nine and a half miles of transmission line, a little over five miles of distribution line, a hundred and five customers, and 55 k. v. a. of transformer capacity. The price paid was about \$150.00 per customer.

Shortly after, in the same month, the company acquired the Suburban Utilities Company serving Geneva and Saybrook townships, at a little less than \$30,000.00. This property had fourteen miles of transmission line, nine miles of

distribution line, 350 customers and about 400 k. v. a. transformer capacity.

The company, then, in March of 1926, made a major purchase—the Municipal Light Plant in the City of Conneaut. Conneaut, you recall from the map, is at the extreme northeastern portion of the system, near the Pennsylvania line and on the south shore of Lake Erie. The Municipal Plant in Conneaut served Conneaut City, the township, and North Kingsville Village, for which the company paid \$455,000.00 and acquired a generating plant, transmission line and distribution facilities.

1058

The Conneaut plant, as shown from the inventory, had thirty-one miles of transmission lines, thirty-six miles of distribution lines, thirty-four hundred customers, and 2,700  
—625—

k. v. a. of transformer capacity. This was a rather significant purchase and was classed as a major one in the period.

In the fall and winter of that year, 1925, the company purchased the Chardon Plant, the Village of Brecksville, the Village of Independence, the Village of Mayfield—that is, the distribution facilities in these villages—the Village of Richmond Heights, the facilities in the Village of Valley View, and bought the plant of the Chesterland Light & Power Company.

1059

Q. Now, would you indicate the relative importance of those purchases by giving us the maximum purchase price of any of the systems or distribution lines you just referred to?

A. The price paid for this series of five purchases ranged from \$10,500.00 for the distribution facilities in the Village of Mayfield, to \$39,000.00 for the distribution facilities in the Village of Brecksville. These were practically contiguous



1060

*Elmer L. Lindseth—By Respondents—Direct*

suburbs in the Cleveland suburban area, and were areas in which the municipality had built the distribution system while buying energy from the Cleveland Electric Illuminating Company.

There then followed, in 1926, the important purchase of the Cleveland, Painesville & Eastern Railroad Company about which I have discussed the service, together with a subsidiary of it, the United Light & Power Company.

—626—

1061

This was purchased for \$1,400,000.00. In addition to the distribution facilities, the company acquired right of way along the railroad for a 33,000 volt line, to serve that territory east of Cleveland in Lake and part of Ashtabula Counties.

1062

The inventory of the United Light & Power Company shows sixty-one miles of transmission line, twenty-seven miles of distribution line, about 2,400 customers, and more than 2,100 k. v. a. of transformer capacity. The parent company, the Cleveland, Painesville & Eastern Railroad Company, had 179 miles of transmission lines, 75 miles of distribution line, 5,000 customers and 4,400 k. v. a. of transformer capacity.

This was a rather substantial purchase and extended the company's territory very quickly far into this eastern territory by having acquired the right of way for transmission line and the customers along the transmission line practically to the eastern extremity of what now is the entire territory served.

Shortly thereafter, the company acquired—and this is in April and May of 1926—the Grand River Electric Light & Power Company property, the East Ohio Power and Light Company property, for \$145,000.00 and \$36,000.00, respec-

tively. Then followed in the summer of 1926, the Village of —facilities owned by the Village of Jefferson, the facilities or properties of the Lake Erie Power & Light Company, and some customers of another railroad—the Cleveland, Paines-  
—627—

ville & Ashtabula Railroad.

Then, in the fall of 1927, the company negotiated for the purchase of the municipal plant in the City of Ashtabula. The company, by this time, had begun to serve practically all of the territory with the exception of the City of Ashtabula. 1064

Q. Practically all of the territory shown on Exhibit 21, is that what you mean? A. Yes. On Exhibit 21. It should be understood that they served it quite inadequately because the facilities hadn't yet been extended, but it was the sole supplier of energy in the territory.

By July of 1928, after an election of the voters in the City of Ashtabula, the company bought the municipal plant for \$2,340,000.00. The company then took over the plant's customers, took over the generating plant, and all of the distribution system. 1065

A few years after, in 19—late in 1930, the company built a very important generating plant in the Ashtabula township and after that plant was built, the former municipal plant was dismantled.

The acquisition of the Ashtabula municipal plant added 6,900 customers, 115 miles of transmission lines, and 11,600 k. v. a. of transformer capacity.

There then followed, in this area, the purchase of a few

1066

*Elmer L. Lindseth—By Respondents—Direct*

more properties, the Chagrin Valley Electric Company, quite close to Cleveland, and then a second or third interurban line, the Cleveland Southwestern Railway Light & Power Company. The price paid for the latter was \$300,000.00.

Q. The last named company you referred to supplied electric service as well, did it A. Yes, it did. It served not only its own operations, but consumers as well.

1067

Now, the company, at the time of these purchases, had been selling energy throughout its territory at a maximum rate of five cents per kilowatt hour. The company had, prior to that, for a great many years, adhered to the practice of having a single uniform rate structure throughout the territory, and, of course, the immediate effect of the acquisition of these numerous small properties was to immediately put into effect the company's uniform rate schedule, so that in these years, the reduction in rates to these customers transferred to the company's lines was very, very marked.

1068

For example, in the Village of Chardon, consumers had been paying as high as eleven cents per kilowatt hour when the company took over the Chardon plant. This rate was immediately reduced to five cents. Similarly, the consumers of the Cleveland, Painesville and Ashtabula Railroad Company in Madison and Saybrook, had been paying eleven

—629—

cents subject to a discount of two cents for prompt payment. Their rates were reduced to five cents. Customers of the Northeastern Ohio Power and Light Company had been paying 12½ cents per kilowatt hour maximum. They were reduced to five cents.

*Elmer L. Lindseth—By Respondents—Direct*

1069

Consumers of the Grand River Electric Light and Power Company, serving rural communities in Ashtabula County, including Austintown and Rock Creek, paid thirteen cents per kilowatt hour for the first twenty kilowatt hours. That rate was reduced to five cents.

Similarly, the maximum rate for customers of the Lake Erie Power & Light Company, serving Avon Village and Avon Lake and Bay Village, had been ten cents prior to purchase, was immediately reduced to five cents.

In Burton, the consumers of the Middlefield Electric Light Company, one of the very first companies acquired, had paid seventeen cents per kilowatt hour, up to twenty-five hours, less a five per cent. discount for cash payment.

1070

Now, obviously, under such rates, and with the class of service that had been furnished in this territory, the average use per residential consumer was necessarily low because, first, the price was prohibitive; second, the service was inadequate; and third, generally speaking, there had been no promotion.

Even quite adjacent to Cleveland, in residential suburbs such as served by the Chagrin Valley Electric Company and the Solon Light & Power Company, consumers had paid ten cents per kilowatt hour.

1071

In Dover, Fairview and North Olmsted—those are just adjoining suburbs in the City of Cleveland—consumers of the Cleveland Southwestern Railway & Light Company had paid ten cents for the first kilowatt hours purchased.

In Geneva, Madison and Unionville, rural communities rather far removed, they had paid ten cents. At Jefferson,

1072

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the rate for the first ten kilowatt hours had been a dollar and a quarter. At Orwell, where the company bought the oil engine plant, the starting rate had been 14 cents for ten kilowatt hours and 11 cents for the next sixty-five.

1073

The Suburban Power Company, the initial rate was 20 cents per kilowatt hour for the first ten kilowatt hours. However, in these adjoining suburbs, where the village had built its own distribution system and bought energy at wholesale from the company, the maximum rate was identical with that of the company; namely, five cents per kilowatt hour.

This rate prevailed in Brecksville, Independence, Mayfield, Richmond Heights, and Valley View.

Now, immediately on acquisition of these properties, the company rehabilitated the distribution lines, replaced obsolete, overloaded, and inadequate equipment, and linked the territory together with a 33,000 volt transmission line.

Q. Were the reduced rates which the company then had —631—

1074

in effect, made applicable to service in these cities and towns you have referred to, immediately upon acquisition of the properties? A. Yes, immediately. On the acquisition of title and the transfer of the property and consumers from the former owner to the company, the rates were made immediately applicable, even in advance of the reconstruction of the facilities or the replacement of the obsolete property.

The uniform rates of the company were made effective throughout the territory, automatically, as a matter of fact. Now, in this territory, the response to the improved service rendered by the company, the lowered rates, and the excellent opportunity to improve the extent to which electricity

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1675

was used by the consumers through adequate promotion, the effect of these things was immediately evident.

At the end of 1926, the company had, in these three territories, shown at the extreme right of one of these maps, Exhibit 21, for example, the territory to the right of a point marked in the lake, Willowick—this territory comprises three counties—the number of customers in those three counties at the end of 1926 was about 10,700.

Q. Those are customers of all classes? A. Those are customers of all classes. By the end of 1929, when the acquisition of new territory was complete, the number of customers in this area had reached 19,100. By 1939, ten years later,

1076

—632—

without the acquisition of any additional territory, the number of customers had increased to 24,500, which increase was 28 per cent.

Now, during this same ten years, from 1929 to 1939, the residential sales of energy in this territory had increased from 11,000,000 kilowatt hours to 25,000,000 kilowatt hours—an increase of 127 per cent. The average use per residential consumer in the same period and in this territory increased from 577 to 1,021—an increase of 77 per cent.

1077

Q. Your figures are number of kilowatt hours, are they?

A. Yes, the figures are numbers of kilowatt hours per residential consumer per year. The latter value—1,021 kilowatt hours per consumer for these three rural counties is in excess of the corresponding average figure for the company as a whole, which value, as of 1939, was 924 kilowatt hours per consumer.



1078

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That is, the average use of 25,000 residential consumers in these three rural counties was in excess of the average use per residential consumer throughout the territory.

This is quite the more striking when it is realized that in a city like Ashtabula, during the interval from 1930 to 1940, the population declined about 8 per cent., again due to decentralization of population. During that period the number of customers served by the company in the city of Ashtabula, however, increased 4 per cent., from 6,900 to about 7,200.

1079

—633—

That is, with a decrease in population, the number of customers served was increased, illustrating the making available of service to people in the lower income brackets and people with inadequately wired houses at the beginning of the period.

The total number of company's meters in the eastern division in 1939 was 32,500, of which the number of residential consumers was 24,500.

1080

Q. Here, at the end, Mr. Lindseth, you are speaking of the eastern three counties in the territory? A. Yes, substantially the eastern three counties. The boundary is a little bit irregular.

Q. Are there geographic factors in the territory served which have encouraged the growth of industry in the territory? A. Yes, generally speaking, my discussion up to this point has related to residential consumers, but it is important to note that this is primarily an industrial territory. Even in these rural communities, the cities like Ashtabula, Conneaut and Fairport are important industrial and manufacturing centers.

Each has important coal and ore docks; each has important factories and not only that, but the conditions in the territory are favorable to the increased industrial expansion within the limits of the company's area served.

Cleveland is primarily a town, the industrial activity of which centers on the metal trades, the making of steel, the

—634—

fabrication of steel and steel products, of brass and other metals, with incidental and associated industries making machine tools and the like. Within a radius of five hundred miles of Cleveland is this important industrial market, and many of Cleveland's customers for its industrial products are located in such cities as Detroit and Pittsburgh.

Cleveland is a very large manufacturer of automotive parts, for example. As a result of these conditions in the territory favorable to industry, and although the emphasis may be said to be on metals and metal working industries, Cleveland does enjoy a wide diversity of manufacture.

Q. Now, are there other factors, other geographic factors, which encourage the growth of industry? Is the lake, itself—Lake Erie, itself, a factor in the encouragement of industry? A. Yes, the transportation facilities afforded by Lake Erie have definitely contributed to this industrial development by making available at very low cost, iron ore, which with the availability of suitable coal from western Pennsylvania and West Virginia, has made rather natural the development of iron and steel in this northeastern Ohio territory. The rail facilities are such as to contribute to the development industrially, the proximity to markets

1084

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makes it attractive for industry to locate in this area, centrally located to its markets.

—635—

In the 1937 Census of Manufacturers were listed three hundred and fifty types of industry, of which 220 are represented in the territory of the company.

1085

Cuyahoga County has about 1 per cent. of the nation's population. Yet it produced almost 2 per cent. of the products manufactured in the United States in 1937. The total value of the products of the manufacturing industries in Cuyahoga County in 1937 was more than a billion dollars, being a billion and seventy-two million thousand—a billion, seventy-two million dollars—and in the City of Cleveland \$967,000,000.00.

1086

In Cuyahoga County, the center of the district, there are more than 2,200 manufacturing establishments and, as we noted in connection with population statistics, although this is a very high concentration of industrial activity within Cleveland, there is a well-defined tendency for industry to decentralize by acquiring sites in industrial and manufacturing suburbs, where land is available, where home sites are available for workers and industry is decentralized through the entire territory.

The diversity is, of course, an advantage to the company in affording opportunities to serve loads in an aggregate load factor beneficial to the company and conducive to reduced costs.

As indicative of this diversity, there may be noted the character of the company's largest consumers. The largest

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customer of the company is the Cleveland Railway Company, which is the street railways serving the City of Cleveland, whose demand last year was in excess of 38,000 kilowatts and the kilowatt hours of energy purchased, 124,000,000.

Q. Cleveland Railway Company is a non-affiliate of the company, is that correct? A. Yes. The Cleveland Railway Company is owned by interests quite separate from those owning the Cleveland Electric Illuminating Company. The second largest customer is the American Steel & Wire Company, a steel products and a steel manufacturing company, making wire, rods, bars, sheets, strips, and the like, with a demand in excess of 17,000 kilowatts and energy purchases in excess of 85,000,000. 1088

The third largest customer was the Republic Steel Corporation, making similar steel products, and iron and steel, with a demand of 21,000 and an energy use of about 70,000,000 kilowatt hours.

Then, there follow such companies as the Chase Brass & Copper Company, making brass and copper products; the Cleveland Union Terminals Company, operating the electrified railroad terminals; the Otis Steel Company, making steel and steel products, strips, sheet and plate steel; the Aluminum Company of America; the Fisher Body Company, the City of Cleveland—the Easterly sewage disposal plant is one of the company's very largest customers—the Willard Storage Battery Company; the Industrial Rayon Company; 1089

—637—

the Standard Oil Company; the General Electric Company, the wire works; the Republic Steel Corporation, their Upson works; the Ohio Rubber Company; another plant of the

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General Electric Company, their Nela Park offices and laboratories, the Thompson Products Company, making automotive and aircraft parts; the White Motor Company, making trucks; a third plant of the General Electric Company, the Incandescent Lamp Bulb Works; and the Eaton Manufacturing Company, making automotive parts.

These are representative of the diversity of industry and a substantial number of these plants that I have mentioned are not within the municipal limits of the City of Cleveland.

1091

Q. Even with this diversity of industry of which you have spoken, is there a similarity of service needs among your industrial consumers? A. Yes, there is. That is, although the products of industries are widely diversified as to character, industry needs dependable electric service with adequate control of voltage and frequency for precise manufacturing operations, prompt restoration of service, and although these industries are diversified, they do require rather uniform standards of service.

1092

The diversity is of distinct advantage to the company in reducing costs by improving load factor which advantages redound to the customer in the form of improved service at

—638—

reduced rates. This uniformity may be seen, for example, from the fact that as far east as Conneaut, the character of Conneaut is not essentially different from the character of Cleveland. It is a lake port with docks as has Cleveland. It has small manufacturing plants as has Cleveland. It has railroad shops as has Cleveland, and the same may be said for such cities as Ashtabula and Fairport.

So that this is a territory which is homogeneous to the point of being throughout industrial minded, with incidental

agriculture, but it is diversified by having a wide variety of industrial and commercial needs.

It enjoys the benefits of diversity, but it enjoys the benefits of uniformity.

I mentioned, for example, the cities of Geneva—excuse me of Conneaut, Ashtabula and Fairport, but in some of the smaller cities such as Geneva, the population of which is much less than that of the others, there are located such plants as the Geneva Metal Wheel Company, and the American Fork & Hoe Company and the Champion Hardware Company, whose needs and requirements are identical with enterprises even much larger in the City of Cleveland. 1094

Even in some of these very rural territories, such as, for example, the City of Middlefield down near the lower end of the limits, a town of a very small population, in the middle of strictly a rural community, there is a rather sub-

—639—

stantial manufacturing plant—the Johnson Rubber Company—whose demands for energy last year were almost 2,000,000 kilowatt hours; and not only is industry now in that territory, but industry is definitely moving more and more into the territory and it is extremely likely that the trend will continue because there are many advantages in the territory. 1095

This territory is uniform as to climate, being quite close to the south short of Lake Erie, and this climate encourages the sale to residential consumers of winter air-conditioning. It is not especially favorable to summer air-conditioning. Cleveland has a—

Q. (Interposing) Why is that? A. The number of days in the year in which air-conditioning is required in Cleve-



1096

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land—I am speaking now of summer cooling—is somewhat less than thirty and the economic attractiveness to owners of property in which it is contemplated to install air-conditioning is not such that they can afford to install very substantial amounts for as few as thirty days in the year, so that the summer cooling air-conditioning market is probably rather limited in Cleveland.

1097

In the winter time, however, since Cleveland is in one of the cloud belt areas—one of the two important cloud belt areas in the country—and sunshine is decidedly limited in the winter time, there are distinct needs for adequate lighting in the community and the use of winter air-conditioning

—640—

in the form of filtering, humidifying and similar needs.

The normal mean temperature in Cleveland is 49 degrees and the mean maximum temperature is 56. These are data from the weather bureau.

1098

In this rural territory to the east and a small portion to the west, the company has 1,300 miles of rural distribution line, 16,000 rural customers, of which 4,600 were rural farm customers.

In these statistics, rural is defined as the area outside these incorporated municipalities. This rural area is traversed by 2,200 miles of highways over which 1,300 miles of rural distribution line have been built and maintained by the company, representing a coverage of about 60 per cent. Including urban farms, that is farms in incorporated areas, the aggregate number of farm customers served was 7,700 as of December of last year.

Based on the company's statistics, the number of potential farm customers, urban and rural, now taking service in

the areas served by the company, is 50 per cent. and the number of potential farm customers, urban and rural, to whom service is available in the territory is 63 per cent.

There we see as a summary of the territory served by the company, a compact area, 1,700 square miles; maximum dimension, one hundred miles; highly industrialized, with about 60 per cent. of the area unincorporated municipalities, defined as rural in which there is a very substantial avail-

—641—

ability of electric service to these rural customers.

1100

Mr. Hamilton: This is a convenient breaking point,  
Mr. Examiner.

The Examiner: All right.

We will recess for lunch until 2:00 o'clock.

(Whereupon, at 12:15 o'clock p. m., the hearing was recessed until 2:00 o'clock p. m. the same day.)

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## AFTERNOON SESSION.

(The hearing was resumed in room 1102 at 2 o'clock p. m.)

The Examiner: Let us resume. You may proceed, Mr. Hamilton.

Whereupon, ELMER L. LINDSETH resumed the stand and testified further as follows:

1103

*Direct Examination by Mr. Hamilton (Continued):*

1104

Q. Mr. Lindseth, in order to get a general overall picture of the properties which comprise the electric service properties of the Company, would you give us a brief general description of the electric facilities owned and operated by the company? A. Referring again to the system map, Exhibit 21, the electric facilities for the service of this area aggregate, in book cost, about \$140,000,000. These properties consist of a generating system with three power plants, one as shown in the left center of the map at the point Lake Shore, the symbol "LS"; a second, at the westerly edge of the system marked Avon, symbol "AV"; and a third near the eastern terminus of the transmission system, near the Pennsylvania border, Ashtabula—the power plant is so named and has, as its symbol—"AT". These three generating plants aggregate in capacity 520,000 kilowatts and represent an in-

—643—

vestment in excess of \$44,000,000. All of them are located on the shore of Lake Erie.

These three generating plants are interconnected by a 132,000 volt transmission system shown as the heavy diagonal line running southwest from Ashtabula plant around the lower edge of Cleveland and up into the Avon plant.

Q. Now, in order to locate that clearly, would you state whether that line runs through the section marked South Russell? A. Yes, that begins at Ashtabula, the Ashtabula plant, circles the city of Ashtabula, runs diagonally southwestward and just to the northwest of the village of Chardon; proceeds downward through the village of South Russell, and thence westerly through Avon Lake and Avon. This is the 132,000 volt transmission ring.

1106

Near the center, or the left center of the map, there proceed to Lake Shore plant two lines from the point indicated as "PV", the Pleasant Valley switching station, by two routes, to the two points labelled by their symbols—"KO" and "GT", which are, respectively, Oak Street and Grant, step-down transmission stations.

From these two points into Lake Shore, as shown by the heavy dotted line, there is a 66,000 volt underground system which completes the interconnection between the three power

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—644—

plants.

The underground system is made necessary by the requirements of a heavily built up urban center where overhead, high voltage transmission lines, are impracticable.

Q. That is in the city of Cleveland proper? A. That is in the city of Cleveland proper.

The point marked "KO" on the map, the Oak Street switching station, is on the city limits borders. This 132,000

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volt transmission line comprises 454 circuit miles of steel tower line and the underground portions shown, comprise 20 miles of underground cable.

The switch house at the Lake Shore plant also serves as a bulk load supply center to numerous sub-stations, and the switchhouse at the Avon plant, at the westerly end of the system, likewise serves to feed certain sub-stations shown, one of them right adjacent to the site, with the symbol "LK".

1109

The Lake Shore sub-station, in addition to supplying distribution sub-stations, also serves some industrial customers directly and some railway customers. There are located in this major transmission system 6 step-down transformer stations, located beginning again at the easterly end of the system, one at a point marked "SN" which is Sanborn; a second one, again at the center of the map in the southeast portion of Cleveland, marked "NF"; and the third and fourth we have discussed, Oak Street and Grant; the fifth, Clinton, on the west side of Cleveland, symbol "CL"; and the sixth shown on the underground system into Lake Shore as "NB",

—645—

1110 Newburgh.

This system then comprises generating plants, transmission lines, and transmission step-down sub-stations, and constitutes the main interconnected generating facilities.

The next step in getting the energy to the customers is a sub-transmission system at lower voltage, to get energy from the interconnected power plant system, with its associated transmission lines, to the sub-stations themselves, and this sub-transmission system consists of 11,000 volt underground cable, and 33,000 volt underground cable and overhead transmission.

The next step in getting the energy then to the consumer is the sub-station system itself, which comprises 53 alternating current distribution substations and four direct current sub-stations. These have an aggregate capacity of 52,000 k. v. a. and have a wide range of capacity from 30,000 kilowatts down to 300 kilowatts.

From the sub-stations there then radiate distribution facilities to the ultimate consumer, consisting of a 2,300 volt and a 4,600 volt alternating current distribution system, 60 cycles, three-phase, and in the densely populated downtown section of Cleveland, a small area of  $1\frac{1}{4}$  square miles of direct current distribution within the city itself.

1112<sup>Q</sup>

There is also served a street lighting system, or a number of such. The company has 99 street lighting customers.

—646—

The aggregate number of street lamps is some 21,000, and these are in turn served from either distribution sub-stations or the distribution system itself.

We see then as physical property the generating plants, connected by a transmission system, with step-down transformer sub-stations, from which, through a sub-transmission system, the sub-stations themselves are served. From the sub-stations the service is carried to the consumers through the distribution system.

1113

To supplement these electrical properties there are required a substantial amount of general purpose facilities, offices at nine locations, warehouses and storerooms at 16 more, garages at 10 locations, tests and research laboratory, 7 in number, and 4 shops.

Farther than this, the physical property includes a substantial amount of transportation and construction equip-



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ment, principally used in service, embracing, for example, more than 200 trucks, more than 100 trailers, air-compressors, cranes, diggers and the like. It is this property that I will describe under the electric facilities and the miscellaneous purpose facilities.

Q. All right. Turn now, specifically, to the generating stations? A. I have mentioned the three generating plants, the oldest of which is the Lake Shore plant, originally built in 1911, but the oldest portions of which now surviving were

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—647—

first built in 1914.

This plant is at East 70th Street in Cleveland, at the lake front, and now aggregates 180,000 kilowatts of capacity.

The Avon plant, next built, had its first section put into service in 1926. Additions in 1928 and 1929 now make it aggregate 140,000 kilowatts of name plate capacity.

And the newest station, Ashtabula, four units of 50,000 kilowatts capacity each, or a total capacity of 200,000 kilowatts. The machines were installed in 1930, 1931, and 1938.

1116

Q. Do you have any other additional generating capacity outside of the three plants you specifically named? A. There is one incidental source of energy at a plant in downtown Cleveland, the Canal Road station, which, in the early period of the company's history, was an important generating plant, but which today is primarily a supply point for steam heating, but in which does survive a single direct current generator of 3,750 kilowatts capacity. This capacity has not been included in the system figures which I have listed, primarily because it is an adjunct to the steam heating system and is not regarded as firm capacity for the electric system.

Q. Is it actually operated? A. Oh, yes, it is. When requirements for steam are such that it is economical to run this generator, it is operated. The period of its operation

—648—

is almost entirely confined to the wintertime when the steam can be utilized for the steam heating distribution system.

In a system of this character, the dependable capacity at which the plants can operate is of at least as great importance as the nominal capacity of those plants. The figures which I have given are name plate ratings on these machines, but in conformity with the practice which has prevailed for some time in the company's system, these machines are rated for operating purposes at their dependable capacity, as revealed by periodic tests, and their dependable capacity exceeds the name plate capacity.

1118

Q. By how much? A. The machines are bought on rather a conservative basis, and the 520 kilowatt of name plate capacity, which I have mentioned, is, for operating purposes, 590,000 kilowatt of dependable capacity; making allowance for the loss of equipment at time of peak load, in an amount equal to the largest turbine on the system, 60,000 kilowatts at Ashtabula, based on its dependable capacity, and the further loss of a 30,000 kilowatt machine in Lake Shore plant, the present equipment in the power plants is adequate for a peak load of 500,000 kilowatts—this after providing the necessary spare.

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Q. The name plate ratings you have given are of units

—649—

now actually serviceable and available for operation, is that

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correct? A. Oh, yes. The oldest of those units was installed in 1914 and was rebuilt in 1929. The capacity mentioned is all definitely available and is all dependable and up-to-date capacity.

1121

Q. It does not include any units which may be under construction or which may be contemplated? A. That is correct. There are planned to be installed in an extension to the Lake Shore plant now being built, a 60,000 name plate rating generator to be installed in the spring of 1941, and a second similar unit to be installed in the spring of 1942. This addition of 120,000 kilowatts of capacity will make the system capacity as of 1942 total 640,000 kilowatts of name plate rating of equipment.

The peak load experienced to date has been 436,000 kilowatts in the fall of 1939. It is expected that the load to be realized in the fall of 1940 will be of the order of 465,000 to 475,000 kilowatts.

1122

As I have explained, the dependable capacity of the system at the moment is adequate to carry loads of 500,000 kilowatts. So that the system is adequate, not only for the loads anticipated for the fall of 1940, but it is likely that the system capacity now installed would be adequate for loads to be encountered in the fall of 1941.

—650—

However, capacity additions which I have described will be available definitely by the fall of 1941, at which time the system capacity will be definitely above the 500,000 mark.

Q. What are the factors, Mr. Lindseth, leading to the location, the choice of the actual location of these generating plants, the sites? A. The important raw materials in the

generation of power are coal and condensing water, and with the water sources available in Cleveland, there is no location for a large power plant other than on the shore of Lake Erie.

Rail facilities are important, as are facilities for the storage of coal, and although the Lake Shore plant is within the corporate limits of the city of Cleveland, it is in an industrial area in which is available adequate space for the storage of coal and it is located in close proximity to adequate railroad facilities.

1124

Similarly, the Avon plant is located for availability of water, proximity of railroad connections, and adequacy of space for storage of coal.

Ashtabula is similarly chosen. There are additional factors having to do with the suitability of the site from a foundation point of view, and the necessities of excavation. The Ashtabula site happened to have been chosen in some substantial measure because of the foundation and excavation conditions. It was at a point where piling, sheeting or other

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expensive foundations would be unnecessary, where the excavation would be a minimum because of the erosion of the cliff at the shore of the lake, and at a point where railroad connections could be made to the plant from the main line of the New York Central Railroad with a minimum number of highway crossings.

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These generating units that we have described have been built, all of them, between 1914 and 1938. The single unit installed in 1914 of 20,000 kilowatt size was later rebuilt to modern steam conditions and is more modern in its characteristics than the date would indicate.

1126

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Q. Did you say 1940? A. 1914, I meant to say. That unit is Lake Shore No. 7.

Q. Will you state now the size of the individual units now serviceable at each of these three locations? A. The first of those at the oldest plant would be this unit just described, Lake Shore No. 7.

Two other units in the same station, Nos. 8 and 9, were installed in 1919, and are each of 25,000 kilowatt size.

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Two additional units in that plant, installed one in 1921 and one in 1923, are each of 25,000 kilowatt size and are station units Nos. 10 and 11.

Two units, both installed in 1924, known as Nos. 12 and 13, in that station, are each of 30,000 kilowatt size.

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The aggregate of these 7 units then is 180,000 kilowatts at Lake Shore plant.

Avon plant was built in 1925 and 1926. The first two units, Nos. 1 and 2, began operation in the fall of 1926 and each is of 35,000 kilowatt capacity.

1128

Unit No. 3 was installed two years later in 1928, and unit No. 4 in 1929, and each of the latter two is similar to the first two.

The station then comprises 4—35,000 kilowatt units with the aggregate name plate capacity of 140,000 kilowatts.

Ashtabula plant was built in 1929, and 1930. The two units, Nos. 1 and 2 in the plant, each 50,000 kilowatt name plate capacity, began service in November of 1930.

Unit No. 3 began only a few months later, in February of 1931, and is of similar size.

The last unit was installed in February, 1938, and is a duplicate of the first three in capacity, so that the aggregate



gate capacity of the plant is 200,000 kilowatts on a name plate basis making the aggregate capacity for the system 520,000 kilowatts.

These plants, by virtue of the substantial capacity of the transmission system that I have described, are operated and designed to be operated as a single interconnected system. That is, the spare capacity available in any one plant is

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capacity available not only to that plant itself, but is capacity available to the entire system.

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In this way, the spare capacity required in the aggregate for the entire territory is reduced and distinct economies result from a closely interconnected system of this character, with transmission lines of adequate capacity to take care of the outage of the important units and important lines, thus operating as a closely connected system.

At the moment, because capacity at Avon and Ashtabula plants exceeds the needs in the portion of the territory served from step-down stations on the transmission line which, coupled with the fact that the economies at Ashtabula and Avon are better than the economies in the older Lake Shore plant, the usual operation is to transmit substantial amounts of energy north into Lake Shore plant, through the 66,000 volt underground system that I have described.

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When, however, these two units now being installed at Lake Shore plant are actually in operation, the picture is to be reversed and the transfer of energy during normal operations is likely to be southward from Lake Shore plant, rather than northward into Lake Shore plant.



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The presence of a high capacity transmission system, interconnecting the power plants, makes possible these reversals of flow of energy for economy at times when an individual power plant, for example, may, by virtue of new capacity, be changed from a low capacity station, or low

—654—

economy station, to one of substantially higher economy.

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Similarly, the capacity made available, in Lake Shore plant by virtue of these new plant additions, will be made available throughout the system from Avon to Ashtabula, again due to this very substantial transmission system.

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For example, in 1926, the very year in which the Avon plant was being started, in December of that year, before operation was thoroughly shaken down, needle ice formed in the lake and plugged the screens through which all the water comes into the plant. The plant was shut down and rendered unavailable to the system. Because, however, of the substantial capacity of the transmission system, because of the availability of the generating capacity at Lake Shore plant able to be utilized throughout the system, no customer suffered an outage because the loss of capacity at Avon was made up immediately at Lake Shore. This was a case of shut-down of an entire station, the last time such a disaster has befallen our system. This was in 1926, and it occurred during the preliminary operating period at Avon plant.

Normally, this system is neither operated nor designed to enable all customers to be served in the event of the loss of an entire generating station. The possibility of the loss of an entire generating station is so remote, the record of performance is so good, that it is not good engineering and

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not good economy to provide adequate capacity to protect against the loss of an entire plant.

o The usual provision on our system which has prevailed now for a number of years, as design criterion, is to be able to carry the peak load of the system with the two largest units, not in the same plant, out of commission, either because of emergency outage or routine maintenance outage.

Q. Are there other principles of design which have entered into the construction of this generating system? A. Yes.

A system of this class must be designed from principles backed up by long range thinking. The necessary part of the design of a system serving a territory as industrialized as is this, is the requirement that capacity be planned well in advance of need. Delivery of equipment takes a rather long period. Construction necessary before any equipment can be installed in the way of marine facilities and foundations, railroad sidings and buildings, require rather substantial times; so that it is a fundamental principle in the design of this system that capacity requirements be anticipated far in advance of needs.

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For example, the capacity is now already on order, construction is now under way, for a turbine to be installed, not only one in 1941, but a second one to be installed in 1942, to be available for load, roughly two years hence.

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So it is a fundamental principle in the design of this

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system that those needs be anticipated at least that far in advance and the capacity be so scheduled.

Further, it is necessary in the design and development of a system of this class, that the choice of steam cycles to

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be employed be consistent with the type of fuel available, the cost thereof, and the character of the load to be served.

In this area the average load factor at the generating plants is of the order of 50 per cent. In this area for a great many years there has been available coal at what would usually be regarded in the utility business as relatively low cost.

1139 As a result of these two factors, relatively low cost of coal of quite good characteristics, and a load factor of 50 per cent., it is the economical choice of steam pressures and temperatures,—and that choice is practically controlling in the operating expense determination of a generating plant—these factors have made it prudent for this system to design and build relatively low pressure, low temperature plants.

For example, the older Lake Shore plant operates at 250 pounds, 600 to 700 degrees steam temperature. The Avon and Ashtabula plants operate at 375 pounds, 725 degrees steam temperature.

1140 Because of changed conditions, however, partly in the location at which the new capacity is to be installed at Lake Shore plant in the center of a high load density district,

—657—

and partly because the two machines to be installed there are to, for many years, be the best two machines in that load area, the temperature and pressure chosen for the plant addition at Lake Shore, the 1941 extension, is to be 850 steam—850 pounds steam pressure—900 degrees. This choice of temperatures and pressures will make these two units quite the most economical units on the system in the generation of power.

A further principle as to which I have already referred in part, in the location of power plants, is that one having to do with the availability of coal, the proximity to railroads, and the adequacy of cooling water. But further than this principle, since the transmission line joining power plants is a very major element of a system, the choice of a power plant site must be carefully made from the point of view of the availability of transmission line right of way and access to the plant by these high lines.

For that reason plants, the output of which is to be transmitted over high tension transmission lines, are no longer able to be located inside of cities, for example, because of the lack of availability of overhead transmission line right of way. 1142

Further, in the building of this system, the size of units chosen may be said to be moderate. The system now comprises 520,000 kilowatts of installed name plate capacity,

—658—

the largest unit of which is 50,000 kilowatts, or about 10 per cent. of the size of the system.

The two new units being installed are each 60,000 kilowatts, and at the completion of the installation of the second one, the system capacity will be 640,000 kilowatts, on which the largest unit will be 60,000 kilowatts, again about 10 per cent. of the aggregate capacity of all power plants. 1143

This principle has for some time controlled in the choice of the size of units, in the Cleveland system.

This choice of units, or unit size, provides a reasonable balance between fixed charges and operating costs, and at the same time reduces to what are regarded as reasonable limits, the amount of spare capacity required to be installed

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or operated on the system as protection against the loss of the largest one or largest two units.

Plant auxiliaries on the system, in the newer plants, are largely electrically driven. In the older plants, they are, in varying amounts, steam and electric driven.

1145 For example, in Lake Shore plant to which there is now being added additions, in the older portion all the boiler feed pumps are steam driven. In the newer portions, however, while there will be installed for each turbine a steam drive boiler feed pump, this steam drive unit will be used only in the event of major emergency, since there are being installed also for each turbine three electric drive pumps, two of which are adequate to carry full capacity of the

—659—

machines, and the third electric drive being spare to be used in the event of emergency or routine maintenance.

This steam drive pump, as a matter of fact, is expected to be used so little, that the exhaust from that pump is to the atmosphere and is to neither a condenser nor to a heater.

1146 From the electrical point of view, the part the auxiliaries play becomes very important, because the operation of a turbine is not possible without the operation of all of the auxiliary pumps, fans, and other auxiliary equipment made a part of that unit.

As a result, in the design of the auxiliary supply to a station of this class, there is usually available to any auxiliary not only a normal supply of electric energy, but in the event of failure of that normal supply, an automatic provision to throw over the supply to an adjoining panel or feeder. Thus, in the event of loss of a normal supply,

it will still permit the operation of the unit without shut-down.

Further, in the design of this system, switchhouses have been designed as practically integral parts of the plants themselves.

At Avon and Ashtabula, the switchhouses are located within the same building as that which houses the boilers and turbines. At Lake Shore plant there is a separate switchhouse.

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Associated with plants of this class, where the load is supplied primary through a high tension transmission system, there are step-up stations, outdoor switching, transformer yards, and the associated equipment made necessary by supply to a high tension transmission system.

In the electrical design of these switch houses and main circuits, at plants like Avon and Ashtabula, to insure reliability and minimum disturbance to failure of equipment, there is vertical isolation of phases. Further than this, there is substantial protection horizontally, both between adjoining units and between phases of the same units and substantial isolation between different pieces of equipment serving the same unit, such as, for example, an oil switch and its associated disconnecting switch.

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Isolation, then, of electrical equipment, is fundamental in the design of these plants.

Similarly in the matter of duplication of bus facilities so that in the event of failure of a single bus, a duplicate bus may be immediately pressed into service to reduce the duration of the outage caused by the necessary maintenance.



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Safe standards, of course, are used throughout. By "safe standards" I refer not only to safe standards for the protection of equipment, but safe standards for the protection of employees; and where the public is likely to be in hazard, safe construction from the point of view of the public.

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In recent plants at Avon and Ashtabula, for example, in their entirety, and Avon is 14 years old, the most modern available equipment for the reduction of atmospheric pollution is employed. These plants, both of them, are pulverized coal fired, and in their construction all reasonable precautions have been taken to insure reduction to a reasonable minimum of the discharge of objectionable dust to the atmosphere.

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Smoke is no longer a problem in the operation of power plants. Economies of generation are such that smoke is only, under most unusual conditions, present at all.

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Q. Do you generate any direct current at all at the three principal stations? A. Direct current is generated at each of these three stations only as incidental to the generation of alternating current. The control circuits in these plants are all direct current operated. Certain of the auxiliaries, notably those requiring variable speed motors, are direct current operated. Emergency lighting is direct current operated from a battery system. So that, in each of these three main generating plants there is capacity available for direct current generation, but none leaves the generating plant itself.

In the oldest of these plants, the steam heating plant to which I have referred as Canal Road Station, there is a single direct current 3,750 kilowatt machine, which is now operated incidental to the steam heating system, and sends its energy out to the direct current downtown system.

Q. At what frequency is alternating current generated?

A. This system throughout is and has been, since its inception, operated at 60 cycles, 3-phase. The generation at Lake Shore plant is at 11,000 volts; generation at Avon and Ashtabula plants is at 13,000 volts. All the plants burn coal as fuel.

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Ohio and Western Pennsylvania are important coal-producing centers, and no fuel is competitive for steam generation in the Cleveland area with coal.

At all three of these plants; the coal is burned in pulverized form; at Avon and Ashtabula, exclusively so; but at Lake Shore plant only in part, as such.

There are also installed at the Lake Shore plant stoker-fired boilers in which the coal is burned in solid form on stokers, the number of which is 32. Turbines are, in all cases, horizontal turbines; with two exceptions all are straight impulse turbines, 17-stage, by-pass governed, running at 1,800 r. p. m.

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Boilers in all classes are of bent tube construction, Stirling boilers.

The pulverized coal burning equipment at these three stations is essentially similar at all locations. The central storage system is employed in which the coal is pulverized in a portion of the main plant, transported to bunkers, from

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which it is fed to the boilers at a rate which is wholly independent of the rate at which it is pulverized.

At all three plants, refractory furnaces are used, with air-cooled walls. The boilers in all cases have capacities from 300,000 pounds per hour to 400,000 pounds per hour.

These generating plant facilities, as I have described them, are wholly adequate for present loads, and in no case

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is there any deficiency of boiler capacity below the installed turbine capacity in the plant, and as I have testified, the present installed capacity is adequate for a load of 500,000 kilowatts, contrasted with which the maximum thus far experienced has been 436,000 kilowatts.

Q. How is that load distributed on the line? A. At the time of its generation?

Q. Yes. A. Well, I don't have data available on the actual generation which took place at each of the plants at the time the peak load was being carried.

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Q. At all events, it was distributed among the—— A. (Interposing) But the capacity which was on the line at the time of this load was distributed in a manner for which I do have the data.

At the time the capacity at the Ashtabula plant was 190,000 kilowatts; the capacity of the Avon plant was 160,000 kilowatts; and the capacity at the Lake Shore plant was 165,000 kilowatts. These aggregate 515,000 kilowatts of capacity, which were on the line at the time that the load was 436,000. The subtraction yields a spare capacity at the time on the line of 79,000 kilowatts. That is, at the time of that peak, the capacity was adequate to handle 79,000

kilowatts more load than was actually experienced, or, 79,000 kilowatts of the capacity on the line could be lost from service without impairing the ability to carry the peak load.

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The generation is likely to have been approximately in the ratio of the capacities on the line, about one-third at each of the three generating plants.

Similarly, however, the loads distributed from Lake Shore plant was probably substantially in excess of the load generated at the Lake Shore plant, and energy being generated at Avon and Ashtabula was, without question, coming in over the transmission line, being fed into Lake Shore power plant, from which it was sent out over the sub-transmission system to distribution sub-stations.

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The allocation of load between generating plants is a problem of considerable magnitude and is, in large measure, controlling in the resulting economies realized in the generation of power, and I should like at a later time to go into, in some detail, the principles employed in the allocation of energy between generating plants to carry a given load or a peak load.

1161

Q. Is your present capacity adequate to take care of the normal load growth during the next year? A/ Well, normal load growth in the next year or two is a very difficult thing to forecast, with defense activities being what they are. As a result of engineering studies which have been made by the engineers of our Company, it has been decided that it will be economical and prudent to increase our capacity by 60,000 kilowatts in 1941, and by 60,000 kilowatts in

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1942, even though the presently installed capacity appears adequate, in the face of normal load increase, to carry the

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1941 load. There are many factors which contribute to engineering decisions of this character, the availability of equipment, the availability of capital, the potential economies which may be realized from high efficiency equipment installed even in advance of its need for carrying load; and it may be said that although the existing equipment is adequate to carry those loads reasonably to be expected, even in the fall of 1941, that capacity is being installed in excess of that estimated by the Company.

1163

Q. Will you refer now to Exhibit No. 21, and describe the transmission lines connecting the generating stations, to which you have already referred? A. I have referred a number of times to the essential importance of this transmission system, interconnecting these power plants, not only from the point of view of availability of power supply to all portions of the system, but similarly, for economy of operation and economy of fixed capital investment.

This line throughout, from Ashtabula to Avon, is steel tower, double-circuit construction, with two such steel tower lines paralleling each other on a single right-of-way, joining Avon and Ashtabula with four circuits.

1164

Q. That gives you a total of two circuits? A. Two circuits on each tower line, two such tower lines, making a total of four circuits joining the plants.

Q. All right. A. In this transmission system are located six bulk power supply centers or transformer step-down stations, from which sub-transmission carries the energy from the inter-connected power system to the sub-stations. This 132,000-volt system comprises slightly over 450 circuit miles of this line and makes a type of system in which Cleveland,

the high density load area, is circumscribed by a ring from which there is fed radially inward, at six points now, and soon to be seven, the main supply of energy.

Years ago, when systems were small, and specifically in Cleveland when the system was substantially the Lake Shore power plant, the supply of energy was radially outward from one power plant. Today it is radially inward from a closely interconnected ring into which the energy is fed, and from which the energy is carried into the load centers through radially inward lines.

1166

From this point in the lower left center portion of the map, designated as PV, known as Pleasant Valley sub-station or switching station of the Company, two lines, each of double-circuit steel tower construction, are built Northward into the Cleveland area. One terminates in the transmission sub-station indicated as GT and known as Grant; and the second one adjacent to it, Oak Street.

—668—

Q. What is the voltage of those two lines? A. Those lines likewise are 132,000 kilowatts.

1167

Q. 132,000 volts, you mean? A. Excuse me, yes, 132,000 volts.

The construction of the line from Grant sub-station North to Newburgh is 66,000 volt, 3-conductor, oil filled cable, the first of its kind used in this country.

The lines from Newburgh North into Lake Shore are double-circuit, 66,000 volt construction, single-conductor, 500,000 circular mil, compound filled cable, which, when they were installed in 1924, were likewise the first of their type



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used in this country for transmission of energy in any substantial amount.

From this point, designated as Pleasant Valley switching station, the line which goes Southward to the edge of the Company's territory, is a single-circuit, steel tower line to the Ohio Edison Company, through their South Akron substation, forming an interconnection between the Company and the Ohio Edison Company.

1169

Similarly, to the West, at the point designated LR, and known as Lorain switching station, a line extends to the Westward, to South Lorain, and is an interconnection, now unused, with the Ohio Public Service Company.

Q. And what is the voltage of that line? A. Each of these lines is 132,000 volts, single-circuit, steel tower construction.

—669—

1170

From the point designated FW, and known as Fowles switching station, on the line between Avon and Pleasant Valley, there extend Northerly, into the West side of Cleveland, a double tower line with four circuits of similar 132,000-volt construction:

Proceeding then to the extreme East end of the system, and Southwest of Ashtabula, the point designated SN on the map and known as Sanborn switching station, or better as Sanborn transmission step-down station, there is transformer capacity installed to supply sub-transmission at 33,000 volts.

The next point at which energy is taken off the transmission system is down in the Southeast portion of the territory at a point designated NF at about the lower edge of the Company's territory, and in the center of the map, and known

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1171

as Northfield transmission step-down station, and where, similar to Sanborn, energy is transformed from 132,000 volts to 33,000 volts for the supply of a sub-transmission system to feed distribution sub-stations.

It will be noted that with the exception of the station designated Clinton in the City of Cleveland, in the West side, all of these transmission line transformer step-down stations may be fed from either of two directions. For example, the sub-station designated Northfield, in about the center of the transmission system—

1172

Q. (Interposing) Excuse me, in referring to these sub-

—670—

stations, would you mind referring to them by the letter designation? A. Yes, excuse me. This station to which I have referred as Northfield bears the symbol "NF", and it may be seen that that sub-station may be supplied with energy either from the West or from the East. Similarly, Sanborn, on the main ring, may likewise receive energy from either of two directions.

Q. And the letter designation of that sub-station? A. Is SN.

1173

Likewise, Grant, designated as GT, Oak Street, designated as KO, and Newburgh, designated as NB, may be energized from either direction.

Capacity is not, in all cases, adequate so that the complete loss of a transmission line on one side of a sub-station will still permit the complete operation of that sub-station, but energy can be, in part at least, supplied to that sub-station from these two directions.

The design of this system throughout is such that full capacity can be carried with the outage of one of the existing

1174

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circuits. That is, the full output of Ashtabula plant may be transmitted Westward on the system, with but three of the existing four lines in service.

Similarly, from Avon plant Eastward, the full capacity of the plant may be carried with a single line out for either routine maintenance or emergency outage.

—671—

1175

Q. You have explained the heavy black line which, in effect, encircles a major portion of the territory, and that is the 132,000-volt line. There appear at a number of points black lines slightly less in width. Will you explain the significance of those lines; in other words, for example, the line running from Avon, lettered AV, on the Western extremity, to the sub-station lettered KB. At what voltage is that line? A. That line shown as a solid line of intermediate weight, is a 33,000-volt overhead construction line. The line of similar weight which runs Northward from Northfield station, designated NF in the center of the ring, shown as a dotted line, is a corresponding voltage line of underground construction. These are part of the sub-transmission system rather than the main transmission system, the distinction being that the sub-transmission system conveys energy from this main backbone system to the distribution sub-stations.

1176

This ring which I have referred to as result of this evolution from a single plant system from which the feed is radially outward, to a multiple plant system from which the feed is radially inward, is result of some 30 years or more of growth, 35 years of growth, in the transmission and sub-transmission of the system.

The first plant of the company, Canal Road plant, served all of its customers directly from the power plant. There were no sub-stations, there was no transmission, there was no sub-transmission. This situation prevailed in Cleveland

—672—

until 1905, when the first sub-station was built at a point substantially removed from the power plant, some 5 miles, and to which energy was transmitted with 11,000-volt underground cables, and from which, then, the distribution lines radiated.

1178

This marked the beginning of transmission on the system. The development from then on was rather rapid. The number of customers and the amount of load acquired grew very quickly, and in 1911 the Lake Shore plant was built, from which the sub-transmission of energy was again radially from the power plant. There is associated with the electro-generating plant a switch house with a substantial number of 11,000-volt circuits in it, more than 120, and during that period of growth of the Lake Shore plant, from 1911 to 1924, all of the system load was able to be handled by the addition of more and more 11,000-volt cables, feeding radially out of the power plant.

1179

Then came the transition from a radial system to a ring system, and in 1923 a contract was entered into with the Ohio Edison Company for the sale of a substantial block of energy, 15,000 kilowatts, at the Cuyahoga County line, at the terminus of the line which we have designated from Pleasant Valley, indicated as PV, and going Southward.

To supply this load, there was then developed, first, the 66,000-volt underground system from Lake Shore through Newburgh, with the symbol NB, to Oak Street, symbol KO,

1180

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and thence Southward to Pleasant Valley and Akron, and

—673—

because, for engineering reasons, transformers of this character, namely, from 66,000 to 132,000 volts, required tertiary windings, this tertiary voltage in that initial transformation was chosen at 11,000 volts, and additional sub-stations were and still are supplied from Oak Street transformer step-down station.

1181

In this evolution period from 11,000 volts to 132,000 volts, there were intermediate periods where lines were operated at 22,000 volts, and in 1924, at about the time when the first 132,000-volt construction was being made, there were then existent 50 miles of 22,000-volt line supplying four sub-stations.

With the increase in load, however, and because of the inadequacy of 22,000 volts to carry the necessary loads, this standard was abandoned and sub-transmission is now at but two standard voltages, 11,000 volts and 33,000 volts, and today, this 33,000-volt system now embraces more than 300 circuit miles of pole line.

1182

Shortly after the construction of this line Southward from the Lake Shore plant to the interconnection with Akron, a contract was likewise entered into with the Ohio Public Service Company, to the West, and the 132,000-volt system was extended Westward to the point designated as Lorain switching station, symbol LR, and the tap Westward. Actually, the Lorain switching station was not built until shortly after, when the Ayon plant was built, but the line was definitely constructed.

—674—

*By Mr. Hamilton:*

Q. You have testified that that line is no longer in use at this time? A. Yes, as I have mentioned, this interconnection is available for use, but is at the moment unused. The reconnection of the line would require about twenty minutes of work.

All of this system is designed for independent operation of the circuits. That is, these circuits are not parallel on the high voltage side, but rather are parallel on the low voltage side. As a result, a short circuit in the 132 kv. system results in a much reduced fault current, due to the fact that series impedance of the step-up transformers, themselves, is interposed between the point at which the fault occurs and the point of supply, whether it be power plant or additional supply from the 132 kv. system.

1184

Construction is all of 4/0 copper. The ground wires, which are used on all steel tower circuits, are one-half inch copper weld. Standard span lengths are seven hundred feet between towers. Parallel tower lines on single right of way are spaced at a minimum distance of sixty feet to protect against flash-over in the event of serious side sway of conductors due to high wind or other disturbance.

1185

The system is designed and the conductors are so drawn up that the design tension of 4,500 pounds per square inch will be realized when the conductors are loaded with a half

—675—

inch of ice at zero degrees Fahrenheit with the wind intensity such that the loading is eight pounds.

Under these conditions, the factor of safety of the conductors, themselves, is two. The ground wires are similarly



1186

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sagged, but because of the superior strength of the wires, the corresponding factor of safety under similar loading conditions is of the order of four. Insulation throughout with normal suspension strings is ten insulators, ten inch discs on five inch centers, and on strain towers the number of insulators is twelve instead of ten.

1187

Q. What are "strain towers"? A. In the carrying of 132,000 volt circuits, if the towers be in a straight line, the load on the tower is only to hold the weight of the conductor up and the insulator is termed a suspension string. Its job is to hold the wire up. In the event that line, however, turns a corner, a strain—a sidewise strain is imposed on the tower and, the insulators are then termed "strain strings" and are likely no longer to be only holding the conductor vertically upward, but are likely to be displaced at an angle from the tower so that the conductor will enter from one direction and leave at a second.

1188

The insulator is termed a strain string and the tower is termed a strain tower. In accordance with administrative order No. 72 of the Public Utilities Commission of Ohio,

—676—

the number of insulators is increased from ten to twelve. These 66,000 volt underground circuits carrying energy from this transmission system are run in separate subway from all other circuits and this subway carries no other circuits other than relay and control circuits additional to the main conductors.

The subway is buried at greater depth than the normal subway to minimize temperature variation in the ground and these circuits are either 500,000 circular mils solid cable,

the older design, or 400,000 circular mils three conductor oil filled cable of the new design.

The aggregate capacity of these transformer step-down stations is 470,000 k. v. a. at these six points I have described, as against the 520,000 kw. of generating plant capacity. This capacity of the transmission sub-stations, which I have given, is the normal self-cooled rating which is increased to 520,000 k. v. a. with airblast.

The smallest of these stations is Sanborn, with capacity 30,000 k. v. a.

1190

Q. Could you locate that on the map, please? A. Sanborn, again, at the easterly end of the system and designated as SN, serving a low-load density area; it is the smallest of transformer step-down stations. The largest of them is on the west side of Cleveland, known as Clinton Sub-Station and designated CL, just below the caption "Cleveland and

—677—

Suburbs." It has a capacity of 144,000 k. v. a., self-cooled, 192,000 k. v. a. with airblast. The average capacity is 80,000 k. v. a. and the number of circuit breakers required for this system is fifty-eight.

1191

Just as the power plants, themselves, are of adequate capacity for the handling of loads, now experienced or expected to be experienced, the capacity of the transmission system and the transformer step-down stations is, with a minor exception, likewise adequate for present loads. The single exception to which I have referred is that at Oak Step-Down Station with symbol KO in the center of the map, joining 132 kv. system with the 66 kv. system and which last year carried a maximum load in an amount equal to 115 per cent. of the nominal capacity of the equipment. This is,

1192

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however, a temporary condition which will be relieved by the installation of the new units at Lake Shore Plant and must not be regarded as a condition which would be permitted to continue for any substantial period.

The average relationship between the maximum load experienced last year and the designed capacity is at Clinton sub-station, 65 per cent.; Grant, 75 per cent.; Newburgh, 70 per cent.; Northfield, 74 per cent.; and Sanborn, 70 per cent.

1193

As I have mentioned, Oak Street, however, carried, a load equal in amount to 115 per cent. of its nameplate capacity.

—678—

Q. How do you determine the adequacy of these stations for future load? A. The adequacy not only of a station but of a line of a transformer, of a subway, a power plant, is a matter of constant engineering check in order that requirements may be anticipated sufficiently far in advance of their being experienced, to afford opportunity to install the equipment in orderly fashion.

1194

The engineering department keeps constant check on the loads carried in all portions of the system and curves are kept on which are indicated the actual loads being experienced and the maximum capacity of the particular facility, whether it be line or transformer or sub-station.

When it becomes apparent that the increased load will in reasonable time reach the capacity of the plant, then there is installed either additional capacity at that point to provide for the expected increased load or the load on the existing unit of equipment, line or plant is so reduced by transfer to another source that the equipment will not be overloaded at a point in the near future.

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1195

This is a matter of continuous engineering check and is the only plan which makes possible the continued and orderly development of a system without developing serious overloads and inadequacies.

Further than this, it became apparent, because of the

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rapid industrial growth in the territory immediately to the east of Cleveland, and which I mentioned in some detail this morning in describing the territory, that the present transmission facilities to the portion of the map in the north-eastern portion of Cleveland would, in the next few years, be inadequate.

1196

Therefore, there is in progress of engineering design, now, a new transformer step-down sub-station to be located in the main transmission line between the village designated South Russell and Chardon, the transmission lines from which will run northwestward at 132,000 volts into Cleveland for the supply of this industrial area, and the relief of those lines now shown going northward from Northfield designated on the map as NF, and running up to the present East Cleveland Sub-Station designated EC.

1197

This line now expected to be built, is an outgrowth of long-range engineering study of the character to which I referred where it became apparent that in the next few years the capacity of existing facilities would be over-taxed.

Q. The proposed line, of course, is not shown on the map?

A. The proposed line is not indicated on the map. The map indicates the facilities of the Company as of July 1, 1940.

The Examiner: Let us have a recess of five minutes.

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(Whereupon, a short recess was taken.)

—680—

*By Mr. Hamilton:*

Q. You referred to the 66 kv. underground system in Cleveland. Will you describe that system for us? A. The development of this system was a significant contribution to the art by the Company in 1923 and '24, when the installations were made.

1199

Prior to that time there had been some 33,000 volt, three conductor cables in operation in some of the larger systems of the country but operating difficulties had made it necessary to reduce their operating voltage to 27,000 volts.

It was decided that since the amount of energy to be transmitted was rather substantial and the distance rather great, that higher voltage would definitely be required, and 66,000 volts was chosen; but because of the newness of the design, the joints to connect the cable having theretofore not been developed were required to be developed by the Company.

1200

Later, in 1937, when the capacity of this system was added to, 66,000 volts was again chosen, but three-conductor oil-filled cable was used and there again, although cable of that voltage and type had previously been used in short unjoined lengths, the cable joint required to be used had not theretofore been in common usage, so that this section of transmission line was largely developed by cooperation between engineers of the Company and those of the manufacturer.

—681—

This, I think, substantially describes that transmission system.

Q. You have no 132,000 volt transmission lines in the City proper? A. There are no 132,000 volt transmission lines in the City of Cleveland either overhead or underground.

Q. Will you now describe the sub-transmission system of the Company? A. The third step in the transmission of energy between the power plants and the consumer is the sub-transmission system carrying energy from the main transmission system to the distribution sub-stations.

This sub-transmission system, in the case of the Cleveland Electric Illuminating Company, comprises 485 miles of 11,000 volt cable, 76 miles of 33,000 volt cable, and 378 circuit miles of 33,000 volt overhead lines. 1202

In general, underground construction is confined to urban densely populated areas, overhead construction is possible in less densely populated and rural areas, and in certain cases, over private right of way, in rather densely built-up areas.

This sub-transmission system is a substantial portion of the company's property and aggregates in first cost \$19,000,000.

Referring again to the map, the portion of the system designated as "Cleveland and Cuyahoga County", in general 1203  
—682—

is the area in which 11,000 volts sub-transmission is employed. In this area are five points at which energy leaves the main generating and transmission system and these are—referring to the center of the map—Lake Shore Plant, symbol LS; south the Newburgh transformer station, symbol NB; Oak Street Sub-Station, symbol KO; to the left the Grant Sub-Station, symbol GT; and Clinton, symbol CL.

From these twenty-two distribution sub-stations in Cleveland and the immediate vicinity are served by 142 under-



1204

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ground circuits of two types or sizes; namely, 4/0 and 600,000 circular mils.

Since the voltage adopted in 1905 is still the standard sub-transmission voltage in the City of Cleveland, subway and cable which might otherwise have been rendered no longer useful by the transition in system design from the radial outward system to the ring system, feeding radially inward may be used. There have been substantial economies in re-using the cable rendered just temporarily idle by the change.

1205

The supply from Grant Step-Down Station, symbol GT, is primarily to only two customers, both of them steel mills, the American Steel & Wire Company and the Republic Steel Company, to whom energy is supplied directly at 11,000 volts. From the transmission sub-station designated as Northfield, symbol NF, there are supplied five sub-stations through underground cables at 33,000 volts. ▽

—683—

1206

These are the sub-stations in Cleveland and its immediate environs. Thirty other sub-stations are fed by overhead sub-transmission circuits at 33,000 volts, twenty-four of them in the three counties to the east of Cleveland, and six of them in the portion of the system to the west and southwest of the City of Cleveland.

Three of these sub-stations are fed directly from Avon Plant from the line to which I referred running through Lake Sub-station, symbol LK; through Bradley, symbol BR; and Knickerbocker, symbol KB, along the shore of Lake Erie.

Again, reliability has been a controlling factor in the design of this sub-transmission system and although it is obvious that the reliability of service in an area with overhead sub-transmission can not be as great as in areas served

from underground construction, still the density of load and the requirements of service are such as to make it entirely feasible, and the resulting service entirely adequate in those areas served from 33,000 volt overhead construction. All sub-stations which are served from underground cables are able to maintain their peak load even after the outage of one circuit in the supply system.

In most cases, overhead spare capacity is likewise provided in the supply of sub-stations at 33,000 volts overhead and again the loss of one circuit does not result in outage of the sub-station, and just as the main transmission system

1208

—684—

was closely interconnected for operation, as a single unified system, so the sub-transmission system is similarly closely interconnected for operation as a single unified system.

In general, these sub-transmission feeders supplying a given sub-station are operated in parallel, both at the sending and the receiving points. To protect the sub-station supply, however, these feeders are usually connected to different buses or bus sections at the sending end and to sectionalized bus at the receiving end.

1209

Cable loading is conservative. These 4/0 cables at 11,000 volts, which predominate in the Cleveland area, are loaded to 160 amperes in summer time, 175 amperes in the winter time. 600,000 circular mils cables are similarly loaded to 300 and 325 amperes. This conservative loading makes for safe operation and insures long life under normal operation.

Under emergency conditions, these normal ratings provide a rather adequate reserve capacity and ability to carry a normal load without failure or severe damage. The load

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that a cable circuit may carry is in general limited by the temperature to which the conductors will rise, and in areas of extreme concentration of subway and cables, artificial means are sometimes required to cool the cables and the surrounding subway and ground through which the cables run.

—685—

1211

In the proximity of the Lake Shore Plant, as shown in Cleveland and designated by the symbol LS, there are, in a rather concentrated area, 79 sub-transmission feeders running quite close to each other. The amount of heat evolved is substantial and to meet this condition a ventilating system is installed in the subway comprising seven exhaust fans.

Running north from Northfield Sub-Station, designated as NF on the map, to which I have referred as the 33,000 volt underground system, there is 76 miles of three conductor 350,000 circular mil, paper insulated, lead covered cable, rated 37,000 volts, for sub-station supply, and in addition, twelve miles of similar cable for industrial plant supply.

1212

The 33,000 volt overhead system, which I have described, comprises 251 miles of pole line made up just about one-half of single circuit line and one-half of two circuit line. Because we haven't specifically located that, we might trace its path, in order to reveal the extent to which the territory is covered, and commencing with Sanborn Sub-Station, designated as SN, in the main transmission system, just below Ashtabula, there is seen to be a line running almost due east joining a line running north and south from Pierpont Sub-Station designated as PR, vertically north into Conneaut.

This line then comes back westward, parallel with the shore of the lake through Kingsville Sub-Station designated KV, and then circles around the outer and lower limits of Ash-tabula, through sub-station SB, known as Saybrook, through

—686—

Geneva, through the town of Madison, supplying Eagle Sub-station designated EG, westward to Painesville, supplying Erie Sub-Station designated ER, and from which there is a tap north to Fairport and supplying Fairport Sub-Station designated FP, continuing southwesterly to Mentor, supply-  
1214  
ing Mentor Sub-Station designated MT, thence in the same direction to Willoughby, supplying sub-station Glenn and designated GL and into East Cleveland, symbol EC.

This loop then moves out from East Cleveland in a south-easterly direction to a sub-station designated MW and known as Maywood, and for that short distance from East Cleveland to Maywood, the circuit is at 11,000 volts.

Q. Underground? A. Underground. At Maywood—excuse me. In the short portion indicated, there is a solid line just to the West of Maywood—that 11,000 volt circuit does become 11,000 volts overhead construction. The 33,000 volt system  
1215  
then proceeds due east through Gatesmills Sub-Station, designated GM, south of Chardon to Orwell and up to Rock Creek and Jefferson and back into Sanborn with taps southward to supply Burton and Middlefield, and at about South Russell a line is seen to run south to a sub-station designated AB and known as Auburn.

In the southwest part of the system supplied from Clinton Step-Down Station, designated as CL and located just under the caption "Cleveland and Suburbs", a similar 33,000 volt

—687—

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line supplies three sub-stations designated RD and known as Ridge, supplying Bagley, with symbol BL, and a third one southeast from Bagley designated RL and known as Royalton.

This, then, is the 33,000 volt sub-transmission system and is seen to be closely interconnected and complete in its coverage of the entire territory.

1217

The system is now quite adequate for loads presently imposed on it as is in fact all of the sub-transmission system. The general principle employed for the checking of capacity which I described in connection with the main transmission system is similarly used in the case of the sub-transmission system and as of 1939, even heavily loaded sub-stations were in no case loaded above their nominal design rating at maximum load.

1218

Sub-stations of the class of Lakewood, which is a 1925 design and has a nominal capacity of cables feeding it of 28,800, in nine 11,000 volt circuits, which I have described, was loaded at peak to 92 per cent. of the capacity of these cables and, of a substantial number of sub-stations which I have on the table, Lakewood is the highest loaded of the group.

The 33,000 volt cables from Northfield are of such capacity that the entire load may be carried with one cable out of service, and three of these cables are tapped for the supply of other sub-stations en route. The aggregate loads on the five cables undiversified, is, as of 1939, about 63,000 kilo-

—688—

watts, which loading is about 86 per cent. of the five cable groups' normal capacity.

This 33,000 volt ring sub-transmission system, which I described in the eastern portion of the company's system, is



usually not operated as a closed ring, but is sectionalized and energized from either half. That is, energy is supplied to the eastern portion of the ring through Sanborn Sub-Station and energy is supplied to the western portion of the ring through East Cleveland and Northfield Sub-Stations.

The total circuit capacity from Sanborn alone is of the order of 60,000 k. v. a., which, when increased by the capacity of the Bedford and the East Cleveland lines, becomes more than 80,000 k. v. a., and the aggregate load from this system is of the order of 30,000 k. v. a.

1220

The sub-transmission system is likewise being added to in the plans for the near future. One sub-station was installed just in the early part of this year and is adjacent to downtown Cleveland—Payne Sub-Station—and designated symbol PA on the map, for the carrying of alternating current load in the downtown district normally supplied by direct current. This sub-station will relieve two others and required additions in sub-transmission. Additional sub-transmission facilities are being provided for Willson Sub-Station, Doan, Lakewood, and Warner.

—689—

1221

The purpose of this sub-transmission system as described is to convey the energy from the main transmission system to the distribution sub-stations. These are fifty-seven in number, fifty-three of them being alternating current sub-stations and four of them direct current sub-stations.

The aggregate capacity of these is 520,000 kilowatts. The range in size is from 30,000 down to 300 kilowatts, and the aggregate investment represented is in excess of ten million dollars.



1222

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Q. In the sub-stations, themselves, is that right? A. The investment of ten million dollars represents investment in land and structures and in equipment. As was common practice in the days when the electric facilities were first being extended downtown Cleveland, direct current was used. This system has continued and is still an important part of the downtown electric facilities in Cleveland.

1223

Over an area of about one and a quarter square miles, service is primarily direct current supplied through four sub-stations, which are in the center of the City of Cleveland, immediately below the designation Lake Shore and are shown by the symbols PS for Public Square and CN for Canal, BV for Bolivar, and DG for Dodge.

The A. C. or alternating current distribution sub-station systems range from Conneaut, supplied through an alternating current sub-station known as Jackson and designated JS

—690—

1224

on the map, to the extreme western portion of the system to Lake Sub-Station designated LK, adjacent to the Avon Plant. The distance between these two points is somewhat over ninety miles.

One-half of the alternating current distribution sub-stations are located within the area comprising Greater Cleveland. The others are widely scattered and are largely covered in the testimony in connection with the circuit followed by the 33 kv. sub-transmission system which I have described.

Of these distribution sub-stations, a wide variety of types is required, since some of them are primarily residential, others are primarily industrial, some house street-lighting equipment, some serve customers at sub-transmission voltage,

some serve street railway sub-stations, some are at 33,000 volts, some are at 11,000 volts.

Supply to distribution sub-stations is, in all cases received through the sub-transmission system at either 11,000 or 33,000 volts. Of the fifty-three alternating current sub-stations, eighteen receive their supply at 11,000 volts, one is supplied at 13,000—and that by the way is an exception to a previous statement that I made—and thirty-five receive their supply at 33,000 volts from the transmission step-down stations.

1226

This wide variety in service conditions is a condition prevailing as of the present, but in the course of the thirty-

--691--

five years during which distribution sub-stations have been employed, there have been, of course, substantial developments in type and design so that the types of sub-stations represented are six and these range from attended sub-stations where men are in attendance, either one or two persons per shift throughout twenty-four hours of the day, to completely automatic sub-stations in residential and outlying areas, where no persons are required in attendance, but where inspectors get the necessary data and make inspections of equipment on routine visits.

1227

These alternating current distribution sub-stations are within the types standardized in design and arranged to permit feeders of a given type or class to be interconnected for reliability between adjoining sub-stations. That is, just as the main and sub-transmission systems were designed and are operated as a single interconnected system, so the distribution sub-stations are so located, are so designed and so

1228

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operated, as to realize the maximum benefits from this close interconnection.

As a matter of fact, in the event of outage of a feeder supplied from a given sub-station, in many cases emergency supply for that feeder may be obtained from an adjoining sub-station through a cross-tie or an emergency tie. This is only possible when the system has been carefully designed for interconnected operations as a single unified whole.

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Again, as was the case in the main transmission system and the sub-transmission system, the capacities of distribution sub-stations are adequate for loads now experienced or those immediately in prospect.

To the extent that capacity additions are suggested by the engineering studies from which are projected expected future loads in the next year or two, when such additions are suggested, they are built well in advance of need. Sub-stations are not inherently limited as to capacity, but from practical reasons are usually limited in size, and it is the policy of the Company to provide relief for sub-stations before they actually reach their full load capacity.

1230

In every sub-station there are switchboard panels provided for increase in service. Sub-stations are usually built in sections and nine of the existing distribution sub-stations have been built to two sections, two have a single section—and I am referring now to the attended type of sub-stations of which there are eleven in toto, and, while it is not advisable or may not prove advisable to extend these to three sections in all cases, there is land duct space and provision in the design for such an extension.

The sub-stations distribute energy to the consumers at three voltages: 2,300 volts, 4,600 volts, and 11,000 volts, and although certain customers are served at 33,000 volts, in general they are served from the sub-transmission system.

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This then concludes the discussion of the sub-station system.

Q. When you say that the customer takes current at these three voltages, you don't mean that it actually goes into the customer's premises at those voltages, except, perhaps, in the case of industrial? Isn't it actually stepped down to a lower voltage before it goes into a residential consumer's premises? A. That is definitely true in the case of residential and the smaller commercial customers. Of the 330,000 customers served, the number who would receive energy at a voltage as high as 2,300, would be definitely less than 2,000 or of the order of one-half of one per cent. of the customers.

1232

Q. So that, after the energy leaves the distribution sub-station and before it gets into the customer's premises, the voltage is further reduced? A. That is correct. It is these facilities between the distribution sub-station and the consumer, himself, which are described as the distribution system. The distribution system represents a rather substantial investment, \$57,000,000 of property in the service of these 330,000 customers.

1233

Of the 330,000 customers, about 1,750 are supplied with direct current, the rest with alternating current. The alternating current is in all cases sixty cycles. It is supplied from primary feeders which are in all cases three-wire pri-

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1234

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mary, three phase current, although in the case of the vast majority of customers, the service is single phase. The distribution for direct current customers is substantially all underground construction, a three-wire Edison network with voltage standards 115 to 230 volts, and the number of such feeder circuits is 216.

1235

Also supplied from this distribution sub-station system are more than 20,000 street lights, which are served either from series circuits which feed out of the distribution sub-station or from circuits supplied from pole type regulators.

The alternating current system for consumers at 2,300 and 4,600 volts comprises two classes of feeders: Light feeders and power feeders. Lighting feeders, in general, as the name suggests, are for lighting load and small motor loads. Lighting feeders are, in all cases, regulated. That is, the voltage control is rather close.

Power feeders, as the name suggests are generally designed for carrying of power loads, voltage control is not so precise, although many are regulated.

1236

In industrial and urban areas, when lack of regulation of power feeders might result in voltage deviations more than plus or minus five per cent. from normal, these feeders are equipped with voltage regulators of the three-phase type. The regulation of voltage on the lighting circuits is designed to be maintained to within plus or minus 3 per cent. at the

—695—

customers services, and while these circuits are not entirely free of motor load, the motors are in general below five horsepower in size.

Continuity of service to consumers is an important aspect in the design and operation of a distribution system, and



since these lines from the distribution sub-stations to the consumer are exposed, are in most cases overhead and in territory such as that of the Cleveland Electric Illuminating Company, in areas where there are a substantial number of trees the vulnerability of the distribution system to service outage is greater than any other portion of the system.

Continuity of service is protected by the provision of numerous emergency tie-feeders which, in the event of loss of one feeder, or at least the supply to that feeder, permit of cross-connection or interconnection with emergency feeders from other areas, thus permitting restoration of service prior to the time that it might otherwise be restored were such an emergency feeder not available.

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This system, then, too, is designed for operation as a single unified and interconnected whole, where a given area—a given customer, in fact—may be supplied at times from more than one sub-station.

As indicative of the substantial size and the far-flung character of this distribution system, the mileage of overhead wire in the distribution system exceeds 16,000 miles of

—696— 1239

line.

Q. Throughout the entire territory? A. Throughout the entire territory. This distribution system comprises then 115 volt, 230 volt cables, about 350 miles. In 2,300 and 4,600 volt cables, almost 700 miles. 11,000 volt cables to industrial plants, 180 miles. 11,000 volt cables to railway sub-stations, 63 miles, and 33 volt cables to industrial customers twelve miles.

The amount of underground subway required is 410 miles of multiple duct subway, and the equivalent single duct, or



1240

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the length of tube in which the cable runs is 3,350 miles on the system.

The number of distribution transformers is 33,500. The number of poles, 192,000; the number of manholes in the underground system is about 9,000; and the number of electric services—the service is a facility between the distribution system and the consumer—is 233,000.

1241

Again, the same system of constant check is employed by the engineering department to insure adequacy of facilities and adequacy of capacity in advance of load growth. Weekly maximum readings are kept of load on every feeder, every cable, every line. These are plotted and when the trend of these is such as to suggest in the near future or in the definite future, an inadequacy of capacity, design steps are taken to either relieve the particular facility of part of its load,

—697—

transfer its load, or else to increase the capacity of the facility by construction and design.

1242

As evidence, however, of the extent to which these facilities were loaded last year, the average direct current network feeders were loaded to 74 per cent. of their capacity. The average alternating current lighting feeders, 2,300 and 4,600 volt lines were loaded to 76 per cent.; the power feeders of similar class loaded to 79 per cent.; the 11,000 volt industrial cables, 75 per cent.; the 33,000 volt industrial cables, 64 per cent.

In keeping with the requirements of the company that loads are adequately anticipated and construction undertaken in advance of actual need, two new outdoor sub-stations are now definitely being built or about to be put into

service. These are Park sub-station near Painesville, and Thompson sub-station south of Madison, and at two others, Payne sub-station and Heights Sub-station, facilities have just now been completed for increasing the service.

Q. The two sub-stations you referred to as being under construction are not shown on the map, Exhibit No. 21, is that right? A. That is right. No facilities not yet in service are indicated on the map.

In addition to these—or these additions, rather, will provide eight new 4,600 volt feeders and one additional 11,000

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volt industrial feeder is being installed.

A significant development in this system in particular was the very early choice—as early as 1898—to use the distribution voltage at 2,300 volts in three-phase, sixty-cycle, three-wire feeders. That standard, chosen more than forty years ago, is still used in a very substantial portion of the system and was at the time rather a farseeing design in engineering judgment.

That, I think, concludes the discussion of the distribution system.

1245

Q. Do you have other facilities in addition to those that you have already referred to which are devoted to your electric service? A. Yes. As I mentioned in the summary of the facilities which the Company employs, there are, in addition to the electrical facilities, the supplementary properties required to make the electric system work, and these embrace nine offices, a general or main office of the Company in the City of Cleveland, and eight additional offices, largely for the convenience of customers, and since the maintenance and construction of a system of this size requires a sub-

1246

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stantial number of items of equipment, warehouses and storerooms are maintained at sixteen locations.

Since transportation is a vital element in restoring and rendering service and in construction, garages are maintained at ten locations, research and test laboratories for

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coal, for materials, for water, for meters, and the many other items employed in the design and servicing of this system; such laboratories are seven in number, and these in general are of widely diversified types. Most of them are in quarters owned by the Company, but some have been located in leased quarters. Some have been built specifically for the use to which they are put; some are in factory type buildings converted and rebuilt—in general, have been purchased—and here, the warehouses, garages, shops and general offices are used substantially to the limit of their present capacity, but there the inconvenience is to the Company rather than to the consumer and in general such a situation is not so serious as a situation in which consumers' facilities are used to their maximum capacity.

1248

Q. Where is your main office located? A. The main office of the Company is located in the center of Cleveland at the Public Square, and is designated on the map, only as a coincidence, at the point bearing the symbol PS, which is a sub-station located in the basement of the general office building.

Then, to supplement these fixed properties, the Company maintains its own fleet of transportation and construction equipment which embraces 231 trucks, 111 trailers, numerous tractors, pole setting machines, cranes, trenchers, concrete

—700—

mixers, air compressors, pumps, and numerous other portable items of equipment, the aggregate value of which represents about a million and a half dollars.

The Company, in general, does its own construction work of lines, both transmission and distribution. The Company does its own construction in equipping sub-stations, as a result of which this rather substantial amount of portable construction equipment is required.

Q. You are not in the transportation business, however, are you? A. The Company is in the electric utility business and only to the extent that transportation equipment is required in the business does the Company own its own transportation equipment. 1250

Q. So that when you refer to transportation equipment, you are referring to equipment devoted to electric service? A. That is right.

Mr. Hamilton: This again, Mr. Examiner, is a convenient breaking point.

The Examiner: All right, we will recess until 10:00 o'clock tomorrow morning.

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(Whereupon, at 4:30 o'clock p. m. the hearing was recessed until 10:00 o'clock a. m., August 6, 1940.)

1252

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Whereupon, ELMER L. LINDSETH resumed the stand and testified further as follows:

*Direct Examination by Mr. Hamilton (Continued):*

1253

Q. Mr. Lindseth, yesterday you described generally the properties owned by the Cleveland Electric Illuminating Company. I would like to have you now describe the manner in which those properties are operated. Would you therefore begin with a description of the method of operation of your power plant system? A. In the operation of the system which I described yesterday, embracing the property included in the territory served by the Cleveland Electric Illuminating Company, a three-fold function is designed to be fulfilled; that is, the company seeks adequately to serve

—724—

the customers, it seeks to fulfill an obligation to its employees, and it seeks to meet its requirements to its stockholders.

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In the fulfillment of this function of serving adequately its customers, it is necessary that service be reliable and continuous, that the rate structure affording this service to the consumers be at reasonably low cost, with safety adequately provided, and under conditions which foster increased use of electricity in the territory, and the promotion of industrial and commercial development.

In serving its employees, the functions of the company are to insure fair remuneration for the services those employees render, to insure them some reasonable stability of employment, opportunities for advancement, and the provision of safe and favorable working conditions with reasonable provision for retirement.



In the fulfillment of the third of these objectives, the obligation to the stockholders and equity owners of the business, there is the requirement that the investment made in the business be protected against loss, and that there be provided on that investment a reasonable rate of return.

In the operation of the power plants, the sources from which the energy ultimately distributed is obtained, the objectives are to provide at the source this required continuously available adequate source of energy.

—725— 1256

Q. Do you have any figures on the number of men employed in the operation of these power plants? A. For the operation of these three plants which comprise the power generation system of the company, there were employed as of 1939, 575 men of whom 497 were engaged in the operation of the so-called Steam Departments of the plant, those engaged in the generation of steam, and the operation of the turbines and other associated equipment. And there were 78 concerned with the operation of the Electrical Departments of the company.

These plants last year generated about 1,885 million kilowatt hours of energy in accordance with the system plan of operation as a single unified system, and this energy was distributed among the several plants in amount of 43 per cent. at the Ashtabula plant, 31.9 per cent. at Avon plant, 24.6 per cent. at Lake Shore plant, and 0.5 per cent. at the Canal Road plant. 1257

The annual system load factor on the peak experienced was 49.3 per cent., and the capacity use factor based on name plate capacities was 40.8 per cent. The resulting fuel economy expressed as B. t. u. per kilowatt hour was 14,707, and the fuel required was about 1,050,000 tons.



1258

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Q. I believe you mentioned yesterday that your system load factor was 50 per cent. or thereabouts. The precise figure is 49.3 per cent. as you have just testified today?

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A. The precise figure for 1939 was 49.3 per cent., and the connection in which the 50 per cent. was referred to was a long time picture as an average overall value as the criterion for system design.

1259

Q. Is your 49.3 per cent. figure an average annual figure of 1939, or is that at a given time which you may specify?

A. Load factor by definition is the ratio between the actual kilowatt hours generated and the product of the peak load generated by the number of hours in the year. That is, it is the ratio between the actual generation and the generation which would have prevailed had the plant run at its top load throughout the entire year.

Mr. Binford: The period is a year?

The Witness: The period is a year.

1260

The significance then is that the average load of the company bore a relationship to the maximum load which was 49.3 per cent. The peak load was not made within that definition but variously established. It might be a one-hour peak, it might be a half-hour peak, it might be a 15-minute or an instantaneous peak. In this case, it is the instantaneous peak carried during the year, so it is the load factor as related to instantaneous peak.

*By Mr. Hamilton:*

Q. What department is in charge of the operation of your power plant system? A. The operation of these power

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plants is a combined function of the Steam Department and the Electrical Department with certain supplementary work under the direction of the general safety committee and the safety department of the company. The turbines and boilers of the entire system and their associated equipment in the way of auxiliaries are operated and maintained by the Steam Department under the centralized supervision of the superintendent of power, with an assistant and several associates who direct the supervision of all power plants from the general office in Cleveland.

1262

Under the direction of this Superintendent of Power, however, at each of the power plants, is a plant superintendent who is in charge of the Steam Department activities in this plant.

The production department is under the direction of a production engineer. This is a division of the Steam Department, whose function is to serve all of the power plants throughout the system with technical advice, to furnish assistance—to actually perform the work as a matter of fact, and the testing of power plant equipment, the calculation of necessary system economies and reports, design calculations involving problems in matters of heat balance, and similar technical problems involved in operation.

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The electrical equipment in the individual power plants throughout the system is operated and maintained by the Electrical Department, with again supervision under the

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Superintendent of the Electrical Department whose office is in the general office building.

Q. What are the functions of the Electrical Department?

A. The functions of the Electrical Department—are you

1264

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referring to the operation of the power plants and referring to those functions?

Q. That is right. A. Stationed in the main office, in the office of the Superintendent of the Electrical Department, is the division known as the Load Dispatcher's Office, where is located the centralized control for the switching and operation of the power plants of the system. This is under the direction of a load dispatcher whose efforts are supplemented by a general dispatcher as well.

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Stationed at each plant is an electrical foreman, and under this electrical foreman are the various operators and maintenance men. It is the function of these latter groups to operate the equipment and to regulate voltage and frequency, to maintain plant equipment, to record operating conditions, and carry out the orders under the directions of the central supervising office through the load dispatcher.

Q. You testified that you have three principal sources of power, Avon, Lake Shore and Ashtabula. Are these principal generating stations operated under a general plan of unified control and operation? A. Yes, that is correct. Just

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as the system is designed as a single interconnected, unified whole, so is it operated as a single interconnected system. In matters of economy, for example, plants are operated for best economy not of the plants individually but for the resulting best economy of the system as a whole. Individual plants, for example, might if given favorable loads operate at economies better than are now being experienced, at a sacrifice, however, to the economical operation of a second plant and resulting loss in economy on the system even with an improvement in economy at an individual plant. As a result,

it is the function of the persons charged with the operation of the system in the scheduling of capacity, that that capacity be brought on the line and taken off the line in such a manner as to yield the maximum system benefits, that spare capacity in excess of the load actually being handled be in accordance with system requirements rather than the requirements in an individual station, and the operation in its entirety results in the lowest overall system cost.

I have described the functions of the Electrical Department in accomplishing this, but there are parallel functions performed in the Steam Department, plan personnel, who likewise act in some substantial measure under instructions from the system load dispatcher. For example, the actual generation of electricity, the operation of the turbo-generators is under the direction of the steam department through

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the turbine operating personnel. These, however, start machines and stop machines under the direction of the load dispatcher, who is an individual in the electrical operating department.

Similarly, boiler room operating personnel charged with the responsibility of burning the fuel and generating the steam for the operation of the turbines is likewise a department of the Steam Division. Auxiliary departments are the pulverizing mill operating force, the maintenance department for the Steam Department, the mechanical maintenance personnel, the yard personnel charged with responsibility of insuring a continuous supply of coal to the plant.

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Then in addition, the Production Department maintains at each plant a skeleton personnel in charge of the routine problems currently encountered, the keeping of the efficiency

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records, reports of operation and performance, the maintenance of certain control, and instruments, and other highly specialized equipment, but in a central office is handled the problem of system economies and system efficiencies.

Q. Do you schedule outages for inspection purposes on a system basis rather than on the basis of the consideration of the individual units? A. Yes, that is correct. In scheduling equipment required to be on the line, the first fundamental is that an accurate forecast of the load expected to be encountered shall be available and made. This is a diffi-

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cult phase of system power plant operation, and one extremely important, because in the event that there is inadequate capacity carried on the line, the adequacy of service is endangered, and in the event of emergency, the generating capacity may actually be inadequate for load experienced.

On the other hand, if in the interest of conservatism or just plain cold feet there is an excess of generating capacity carried on the line, substantial loss in economy results and the situation is quite unsatisfactory.

1272

In the forecasting of peak loads then, considerable time and attention of the engineers is given. In the Cleveland system, this forecasting is done a week in advance on Thursday by the engineers of the Production Department in forecasting the loads expected to be encountered during the ensuing week on a basis of forecasting a load which will prevail in the event of clear weather, and having provided thereto, increments of additional load to be added based on the immediate outlook of weather to be expected. For example, the weather conditions for degrees of severity have different effects on the load to be experienced. In the Cleveland sys-

tem, those weather conditions to which weight is given are cloudy, overcast, rain or snow and very dark. The Production Department then in forecasting the load for, let us say, today, Tuesday, made a forecast last week of the load which would prevail during the daytime peak and the evening

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peak in the event of clear weather. The load dispatcher then this morning at about 6 o'clock based on the latest available weather information, Government forecasts, radio and airport reports, made a short time forecast of the weather expected to prevail at 8:30 this morning. Had the weather been what it is here, overcast, he would then add to the clear weather base predicted last week, the increment to correct for this degree of weather severity—a forecast—and the boiler room engineers then scheduled adequate boiler capacity, and the turbine room operators put on the line adequate turbine capacity to carry the expected load which would be realized.

The weather increment on the Cleveland system for cloudy weather is a load 10,000 kilowatts in excess of that expected in clear weather. The corresponding increment for overcast is 20,000 kilowatts, for rain, snow or equivalent, it is 30,000 kilowatts, and weather classed as very dark is predicted to produce a peak load 45,000 kilowatts in excess of what would prevail on a clear day.

The success in predicting loads is quite good, and it is quite unusual on the system that the actual load will deviate from the forecast assumed by amounts of more than 10,000 kilowatts in loads as high as 400,000, that is the load dispatcher is able with the system of forecasting and the weather



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data made available to him to predict the load within devia-

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tions of the order of  $2\frac{1}{2}$  or 3 per cent. The usual experience is as small as 5,000 or even less.

Under the provisions of the system's principles of operations under which spare capacity is provided, an error of 10,000 kilowatts in load forecast does not result in any emergency condition resulting, because there is constantly provided on the system excess capacity above the forecasts by an amount of 10,000 kilowatts to take care of errors in addition to that forecast.

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Q. The load forecasting is on a system basis? A. Yes; again, load forecasting is on a system basis.

The Examiner: We will take a short recess.

(Whereupon, a short recess was taken after which the hearing was resumed.)

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*By Mr. Hamilton:*

1278

Q. Mr. Lindseth, how is the spare capacity in the system calculated? A. After the load has been forecast, which is expected to be encountered, and after the margin for uncertainty, which I mentioned previously, of 10,000 kilowatts is added to the actual forecast, there then is required on the system, in aggregate capacity at the three power plants sufficient generating capacity to permit the emergency loss of certain equipment without impairing service.

That is, at any time the system must be so operated that the loss of a main generating unit, a turbine, will not result in an impairment of service or the loss of a boiler or of a transmission line or of a transmission cable. Those are the emergencies provided against in the operation of the system.

Those conditions are classed as emergencies and under the normal design and operation of the system, provision is made for the occurrence of only a single emergency, but provision is not made for the simultaneous occurrence of more than one emergency.

Q. Is the rated capacity of your generating units less than its dependable capacity? A. Yes. In the purchase of equipment for the system, ratings are in general quite conservative and although the nameplate capacity of a machine

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is definitely stated, actual experience in operation usually reveals the true capacity of the machines under normal operating conditions or test conditions, to be in excess of the nameplate capacity.

Recognizing these factors, the Company has rated its equipment—turbines, transmission lines, transformers—in accordance with available test capacities rather than specifically in accordance with nameplate capacities. Dependable test capacity is usually about 90 per cent. of maximum test capacity, realizing, of course, that ideal test conditions are not always, nor even usually, encountered in actual operation. Electrical equipment, of course, may be operated for short periods at sustained overloads without permanent damage. Boilers may usually be operated for short overloads without damage or impairment of capacities, under conditions usually described as not good conditions, but conditions permitting the loads to be carried.

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Capacity is scheduled on and off the line in a manner such that excesses of capacity on the line will not prevail and on the other hand that capacities will be adequate. The number of boilers to be operated is usually more fixed than

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is the number of turbines, primarily for economy reasons, however, since turbines are generally able to be started and stopped and usually consume no steam nor auxiliary energy when not operating.

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Boilers, on the other hand, when not actually producing steam, are still consuming fuel in the form of radiation losses later to be made up with starting coal or in the case of certain types of equipment, actually banking coal to maintain the boiler in its banked condition.

1283

Q. What principles are followed in distributing your system load among the various plants and among the various units in the three main plants? A. In accordance with data made available to the system load dispatcher through the production department, capacities are first operated on the system in accordance with their economy characteristics, and secondly, are loaded in accordance with clearly established principles based on their operating economies.

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The principles employed are those of incremental economies. For example, in the system of three power plants connected by a transmission system, for energy to be delivered into the City of Cleveland, which is generated in Ashtabula Plant, for example, which is fifty or more miles away by transmission line, the economy of generation alone does not control the load imposed on the plant, but recognition is given to the loss which takes place in transporting the energy over so substantial a distance and in the transformation required at the receiving and sending ends of this transmission line.

The economy of generation, then, at the sending end, is

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corrected for incremental line loss and the resulting economy of delivered energy is the criterion which controls the allocation of load between power plants to determine which of two or more power plants shall generate the load.

Similar data are recognized in connection with boilers, for example, and in the generation of the electrical energy, the boiler room economy is a decidedly controlling factor in determining where the generation of energy shall take place.

Q. What maintenance policy is followed with respect to your generating system? A. In order that capacity may be dependably available, it is, of course, quite vital to the operation of the system that preventive maintenance be practiced to a high degree. Equipment is routinely taken out of commission, inspected, overhauled, in advance of actual breakdown; boilers are scheduled for routine maintenance and cleaning, usually on a basis of operating hours of service, which range for the boilers on the Cleveland system, from fifteen hundred to two thousand service hours. 1286

In the matter of turbines and generators, time of operation is again a factor, but usually because of the long duration of outage required for inspection and overhaul, they are put rather on a calendar basis and the present practice is thorough and complete overhaul once in three years at least. 1287

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Q. Your boilers at times are out of service for inspection as well? A. Yes, they are. They are out on a basis of operating service hours.

Q. So that on maintenance as well, the operation again is on a system basis? A. Yes, it is likely, for example, in scheduling the maintenance of main generators—it is not only likely, but definitely certain—that no two generators

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would be out of service simultaneously for anticipated routine maintenance on the entire system.

1289

The scheduling of equipment to be out of service is through the office of the Superintendent of Power who has jurisdiction over all of the power plants and because the system capacity on taking a unit arbitrarily out of service, the capacity of which is 10 per cent. of the system capacity—because under those conditions the system capacity is definitely impaired—the outage of machines is definitely scheduled on a system basis rather than an individual power plant basis.

The same conditions prevail to lesser degree in the case of boilers, because in all of the plants a boiler is able to be out of service under the present conditions of system rating, without reducing the maximum capacity of the station.

Q. What are the major service problems encountered in the operation of the generating system? A. The most serious

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service problem in the operation of a power system of the character of that in Cleveland, with power plants interconnected with transmission lines, is the potential outage of transmission lines due to storm. A split system, for example, where a power plant is isolated, due to severance of all the transmission circuits, is a major operating problem.

It is one so serious, in fact, and so rarely encountered, that design provision is not made for so serious a casualty. The loss of a single transmission line is able to be encountered—is able to be taken in the normal stride of a system. The loss of a single line usually does not seriously upset operation. The loss of two lines often results in very major readjustments of load required to be carried on power plants, often requiring short time drastic overloading of boilers and



turbines in order to maintain frequency at such a level that the interconnected system can be re-tied, phased in, so to speak.

Q. What is your record on outages resulting from plant failure? A. Service outage resulting from plant failures on the Cleveland system is quite favorable.

Q. That is to say, you have very little of it? A. Since 1926 there has been no outage of a power plant which has resulted in the loss of service to any customer. Service has

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1292

not been curtailed because of power plant failure in more than fourteen years.

Q. Your service problems, then, result, insofar as they exist, from circumstances arising outside the generating plant? A. Yes, that is a fair appraisal of the picture.

Q. Now, turning to the operation of your transmission system. What departments are charged with the operation and maintenance of the transmission systems? A. The transmission system, as I described it yesterday—

Q. (Interposing) If you refer to a map, would you identify it by exhibit number? A. Yes. Will you read what I have said? 1293

(Whereupon, the answer above recorded was read by the reporter.)

A. (Continuing) —as shown on Exhibit 21, embraces a substantial amount of high tension transmission line. The main transmission system is that which connects Ashtabula, Avon, and Lake Shore plants, and the sub-transmission system, which carries the energy from this main transmission system to the individual sub-stations, in its operation, is one of the functions of the Electrical Operating Department.



1294

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The operation of this transmission system, its maintenance, its repair and construction, requires the services of

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273 operators, 75 maintenance men, and 80 electrical construction men. These men function under the direction of a supervisory staff including the Electrical Superintendent, his assistant, a system operator, thirteen dispatchers and 36 foremen and supervisors.

1295 Q. What are the functions of the Load Dispatchers with respect to your transmission system? A. Just as the Load Dispatcher's office is in complete charge of the operation and switching of the generating plants, so the system load dispatcher is in complete charge of the operation of the main transmission system and the sub-transmission system.

The switching of these lines, the scheduling of lines to be out of service, the handling of emergency conditions, both in transmission sub-stations and in distribution sub-stations, is the load dispatcher's duty.

1296 During an average working day, a thousand telephone calls are handled by the load dispatchers during the three shifts.

Q. What is the nature of those calls? A. Those calls are either sent or received from the load dispatcher's office. They report data as regards loads. They report switching operations performed; they report clearance of trouble; they report the presence of trouble; they ask for instructions and, in cases of serious trouble, might even go so far as to require that lines arbitrarily be taken out of service for emergency

—742—

reasons.

In a month, the number of such calls might reasonably be in excess of 25,000 calls per month, five thousand switch-

ing orders are issued in the course of a month, and in this load dispatcher's office, in connection with the operation and maintenance of—principally the operation of this transmission and sub-transmission system, three thousand log sheets and charts are required per year.

Q. I think you testified that in addition to the load dispatcher, you had the General Dispatcher's office. What is the function of the General Dispatcher's office? A. Just as the system load dispatcher is in charge of minute to minute operations, the General Dispatcher is in charge of scheduled outage and maintenance of equipment for adjustment, for repair, for inspection, and overhauling. For example, the operation of electrical equipment, without adequate safety precautions, is extremely hazardous. 1298

Safety is a very important consideration in the operation and maintenance of a system such as this. The General Dispatcher is charged with the duty—in the event a department would like to have a circuit taken out of service, for example, for maintenance—the General Dispatcher is charged with the duty of insuring adequate safety by providing against the accidental energizing of that circuit. Relays are a very vital part of the equipment for the operation of the system. 1299

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In the course of a year's time, this General Load Dispatcher makes requests for equipment out of commission in the amount of—during last year—2,400 such requests. Under the direction of this General Dispatcher, such duties as relay maintenance—and there were 1,050 cases last year of relay maintenance arranged for through the General Dispatcher's office—generator repairs, high line station maintenance, con-

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struction, engineering department special test work and all similar functions are arranged through the office of the General Dispatcher.

Q. Where are the offices of the Load Dispatcher and the General Dispatcher located? A. Both the Load Dispatcher's office and the General Dispatcher's office are located in the general office building of the Company in the center of Cleveland.

1301

Q. So that these functions are performed from Cleveland for the entire service area? A. The operation of the entire transmission system, the centralized control for all the power plants, and of the sub-transmission system, is controlled through the central office in Cleveland.

Q. How is contact maintained between the Load Dispatcher's office and your switch houses and generating plants? A. This contact is primarily by telephone. There are leased lines, private wires, from the Load Dispatcher's office to the power plants and to the principal transmission

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sub-stations. The latter—sub-stations and power plants—are attended through the day with one or more operators continually in attendance.

In addition, at certain of the power plants, operators are located not only in the control rooms for the control of the main equipment, but are also stationed in the plant auxiliary control rooms where the power supply to auxiliaries is handled.

A typical power plant control room performs perhaps as many as 150 switching operations per month on main generating circuits, an operation which requires some degree of skill and experience and knowledge on the part of the operators.

Q. These control room operators have other functions, do they, than merely staying in contact with the load dispatcher? A. Yes, such control room operators are in charge of the electrical operation of the plant. It is their responsibility to maintain the load at the desired levels, maintain constancy of voltage in accordance with pre-established standards at the generating plants, to maintain frequency when frequency is within the control of the operators, to keep constant check on the temperatures of electrical windings, electrical equipment, record numerous items of data in the matter of loads, current, voltages, and the other numerous elements necessary for an adequate record of power plant

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operation.

Q. Are all of your sub-stations manned by operators? A. No, that is not the case. Of the aggregate of sixty-seven sub-stations of all classes; namely, distribution and transmission, twenty-eight of the sixty-seven are attended sub-stations. As I testified yesterday in connection with certain of the distribution sub-stations, these are wholly automatic in their design and operation, being visited by maintenance personnel for inspection once a week, so that something of the order of 40 per cent. of the sub-stations have operators continually in attendance.

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Certain of these high line transmission stations require the services of two operators continuously; direct current sub-stations require two operators continuously on duty. In most cases, alternating current sub-stations of the distribution type, require but one operator on duty.

Q. These non-attended stations have to be inspected periodically? A. Yes, weekly. There are maximum reading

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instruments in these sub-stations on all feeders, for example, so that at stated visiting periods, the inspector can, by reading the maximum reading on the instrument, determine the maximum load experienced during the week.

It is these data which are sent to the Engineering Department for check on the adequacy of the facilities.

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Similarly, at these sub-stations, there are usually installed automatic reclosing devices, so that on a distribution feeder, for example, in the event of just momentary temporary trouble, although the feeder may, itself, trip out, the automatic reclosing device will reclose the switch after a stated period, arbitrarily determined—in our case twelve seconds—and in the event the trouble has then cleared the feeder will be restored to normal service.

On the inspection a week later, the fact of that tripping will be noted from a counter and the operation will be reported to the General Dispatcher's office.

1308

Q. Do you have a relay division which has functions relating to the transmission system? A. Yes. The operation of a system of this character is—principally the switching operations, I should say—are performed through devices termed "relays" which do the thinking for the electrical system. Through the relays, switches are opened in the event the current exceeds a predetermined value—that is, the circuit is overloaded—or if there is lack of balance between the several conductors of a circuit, the relays, detecting this lack of balance, open the circuit breakers.

In the event a certain circuit is desired to operate with current flowing in but one direction, relays may be installed

to protect against the reversal of flow and will open the

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switches on the circuit in the event of such reverse flow.

The relay division maintained during last year more than 16,000 relays and other devices of this character. That is, protective relays, oil switch and airbrake control devices, regulating and other control devices, and oscillographs. The number of individual jobs performed in maintaining these 16,000 devices is of the order of eight thousand. The crew required is eleven men.

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Q. Do you have a repair crew which operates on the sub-stations in the transmission system? A. Yes, the repair personnel for all the electrical equipment, whether in generating plants, transmission sub-stations, or distribution sub-stations, is under the supervision of the electrical superintendent, and at these high tension transmission sub-stations, maintenance of all outdoor electrical equipment is handled by these maintenance crews directed from the central dispatcher's office in Cleveland.

The operation on the main transmission system is done entirely with personnel with headquarters in Cleveland.

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The sub-transmission system, however—the 33,000 volt lines, in areas substantially removed from Cleveland, for example, as shown on Exhibit 21 in the area in the vicinity of Ashtabula, or in fact, any of these three counties east of Cuyahoga County—such maintenance of sub-transmission

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stations, distribution sub-stations, is carried on with local personnel.

Q. I believe you testified that you have approximately 450 circuit miles of 132 kv. line located on steel towers. How



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are those lines maintained? A. The maintenance of those lines is the function of another department and is performed by the Line Department as distinct from the Electrical Department.

The Electrical Department is concerned with the operation of the sub-stations and the power plants and the devices within those power plants and sub-stations for the operation of the line, but the actual maintenance of the towers, the insulators, the right of way and the like, is performed by another department known as the Line Department.

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Q. Those towers have to be climbed periodically, do they, and inspected? A. Yes, in the routine patrolling of the system, those towers are climbed and whatever of maintenance work is suggested by the annual inspection of those towers, is performed.

Q. Do you have a transformer maintenance crew? A. Yes. In the transmission sub-stations and in the power plants, equipment of the character of transformers, power transformers, for changing the voltage of the energy, are under the jurisdiction of the Electrical Operating Department, and a specialized division of this electrical operating

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department does maintain these main transformers, regulators, potential and current transformers, and similar highly specialized equipment required for the operation of main transmission system and the sub-transmission system.

The number of such units of equipment is 470 main transmission and sub-transmission system transformers, and the range in size is from 300 to 18,000 k. v. a. These, again, are under the jurisdiction of the system—the General Dispatcher's office.

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Q. You have station maintenance crews? A. Yes, just as the power plant maintenance personnel is handled centrally, so the main transmission maintenance personnel for main transmission sub-stations is centrally controlled.

Q. In the inspection of this equipment and its maintenance, are safety factors important in prevention of accidents? A. Yes, the hazard of careless operation is very great and the number of potential accidents is appalling. The actual number of accidents is very, very low, due principally to far-range safety planning, active and energetic work on the part of the safety department in stressing the necessity for safety to all men, and in the case of the Electrical Operating Department, the division charged with this high tension transmission line sub-station operation, a special safety man is a full-time employee of that department alone, whose duty

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it is to investigate possible hazards, to investigate actual accidents, and, in the course of a year's operating, to make recommendations for the mitigation of hazardous conditions.

Q. I believe you testified that the company does the greater bulk of its own construction work. Do you have an Electrical Construction Division? A. Yes, in the matter of transmission sub-stations, for example, the construction of the building is in all cases performed by building contractors, but the installation of the necessary equipment, the wiring, the setting up of switch-boards, the actual placing of the equipment, is the job of the construction division of the Electrical Operating Department. All major repairs are virtually of the nature of construction and since the personnel must be maintained for such emergency repairs, construction is a natural adjunct to maintenance.

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The work done last year, for example, involved the construction of two whole new sub-stations, installing five new transformer banks, installing new lighting systems in eight sub-stations, the installation of a number of feeder positions in existing sub-stations, and the removal from one of the older power plants, Canal Road, of a 3,750 kilowatt generator that had been retired from service.

These were all functions of the construction division of the operating department.

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Q. What are the principal service problems encountered in the operation of your main sub-transmission system? A. These are the storms and loss of transmission lines to which I referred in connection with the power plants. When a storm of high intensity is experienced over a substantial portion of the entire system at a given time, very substantial damage can result, not so much from the effect of the storm on the transmission lines or sub-transmission lines, themselves, so much as the mechanical damage which results from a tree being up-rooted, for example, and just being driven against a line and mechanically just taking the conductors right out of service.

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For example, in 1931, the most severe storm probably ever experienced on the Cleveland system occurred in June and the first reports of a disturbance in the territory were received by the load dispatcher at about 8:30 in the morning. Very elaborate facilities are available to the Load Dispatcher's office to determine the presence of bad weather—radio service, telephone service, United States Government weather reports, contact with Load Dispatchers in adjoining communities, other systems.

Since Cleveland is interconnected with the Ohio Edison Company, the Load Dispatchers of the two systems are in telephone contact. Immediately, on receiving reports of major disturbances in the territory, men are dispatched to these normally unattended sub-stations in order that

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they may be there in the event of emergency resulting from storm. By 8:45 that day, a storm of mild intensity moved over the system, tripped a few feeders and high voltage lines, but these were restored substantially immediately.

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By 10:15, however, the storm had reached the eastern limits of the system, and several severe storm areas developed simultaneously over this entire northeastern section of the system. Wind velocity rose to forty miles an hour. The rain exceeded one inch in a very short time. Thousands of trees were damaged and uprooted, blown into the transmission and distribution lines; hundreds of feeders were tripped; many circuits could not be re-energized because the damage had either taken the lines right down or there had been permanent damage to exposed equipment.

Under such conditions, every employee available is put to work restoring service. Engineering Department engineers, for example, were drafted to assist in the Dispatcher's office in recording data from office records; sub-stations are serious trouble in many cases—or were in this case—because sewer capacities in the communities were inadequate and water backed up in the basements, flooding essential equipment.

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During all this time, however, the generating plants were unaffected, and the main transmission system was unaffected.

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The sub-transmission system was that principally furnishing the problems primarily through the 33,000 volt exposed overhead lines.

It is cases of this class which are the major operating problems for a department like the Operating Department to contend with.

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Q. Do you have a Lines Department which operates? A. Yes. The operation of the transmission system and the sub-transmission system from the point of view of the switching of circuits and the stations is controlled by the Electrical Operating Department, but the actual maintenance and patrolling and operation of the lines is by the Line Department.

These are in charge of not only overhead but underground lines as well, of all voltages, and in the case of distribution the same line department actually handles distribution as handles transmission.

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Not only do they take care of operation and routine maintenance, but the Line Department is likewise charged with the responsibility in construction, in pre-construction field engineering, in construction of underground subways, installation of cables, the maintenance of the right of way, locating trouble, and a vast number of problems in connection with so far-flung a system as the lines of this company.

Q. All the maintenance of these lines is done through

—754—

your own facilities—through your own personnel? A. Yes, they were all built by the company's personnel and they are all maintained by the company's personnel.

Q. That involves periodic patrol work? A. Yes, the 132,000 volt system, itself, last year required for maintenance 41,000 man-hours of labor. This, in connection with



the maintenance of the lines, exclusive of the sub-stations. The 33,000 volt overhead lines similarly are under the jurisdiction of the Line Department, and there, too, the maintenance work, like the construction work, is done exclusively by company personnel.

Q. Does the inspection of your other lines require a substantial amount of hourage, and work a substantial personnel? A. Yes, the operation of the 33,000 volt system last year, in construction and maintenance, required 23,000 man hours of effort.

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In the maintenance alone of the underground transmission system, 10,000 man hours were required.

This latter covers the inspection of relays and pressure tanks for 66kv., 3-conductor cable, the monthly inspection of joints and terminals, and, in certain cases, a yearly inspection of certain single-conductor 66 kv. circuits.

Other work necessary to be done was caused by twenty-eight cable failures which occurred over the system.

Q. Now, have you told us how frequently these high ten-

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sion lines are inspected? A. This high tension system is patrolled by operating personnel in this department actually walking over the entire length of the line twice a month. The distance from one end of the system to the other, including the branch circuits, is 128 line miles. This distance is walked, summer and winter, in all kinds of weather, every two weeks.

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In the event of an emergency tripping or an unexplained case of trouble on a line, this patrolling is necessary to be carried out by night as well as by day.

The operating or maintenance personnel consists of two gangs of fifteen men, making up two crews in skeleton form



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at least, and in order that all men may be thoroughly familiar with the entire system—because in emergency there is no opportunity for education; a person must be able to handle these things intuitively—these men are rotated in the sections of the lines which they patrol throughout the year. There are twenty inspection zones, so that the amount of patrolling required in a single day is not excessive.

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This high tension transmission line in many cases is through farm type country, in many cases through woods, across some substantial gullies, valleys, rivers, creeks, and very often to get from one tower to the next tower, only seven hundred feet or at most a thousand feet away, may require going by a very circuitous route. The walking is not too bad,

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neither is it good.

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Access is available to all of these transmission towers—in order that trucks may actually drive up to the tower for the replacement of major equipment, but the patrolmen do not take the roads over which the trucks go, rather they take the direct route and patrol the line. They inspect with field glasses, insulators for flash-over and breakage, usually caused by lightning. They look for burnt spots in the line indicating flash-overs; they look for frayed splices, bad clamps, similar items of routine maintenance on the line.

Q. The right of way, itself, has to be maintained? A. Yes. One of the hazards to these transmission lines is trees growing into the lines, so that the presence of so-called danger trees is noted by the inspector on his patrol, and proper report is made out and the maintenance crew removes such hazards.

Where the company owns the transmission line right of way in fee, the brush is cleared and mowing is done, and where an easement is obtained and objectionable conditions are noted, the person from whom the easement has been obtained very often relieves the situation.

Fences are a real problem, since good relations require that we do not unnecessarily or unjustifiably damage any property belonging to others, so that gates are constantly kept in repair for these access lanes, fence wires are grounded

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in order that voltages are not induced which might result in danger, wash-outs resulting in erosion of land under foundations must be carefully watched lest the towers be weakened, broken culverts and similar problems are always a problem in the maintenance of such equipment.

Q. Have you had instances of loss of a whole tower? A. Yes. Through no cause of the Company's, in 1935 one of its transmission line towers was dynamited. The person, who was later apprehended, and who had been responsible for this, had thought he was going to disrupt the power supply to a factory in a community that we don't even serve, where he or others were out on strike, so that the company was an innocent victim, but a very real victim of this bombing—dynamiting, I should say.

The dynamiting occurred at night and it was one of two parallel transmission lines, and the dynamite had been so placed that the inner two of the four legs supporting the tower were, both of them, so damaged, that the tower fell over on to the adjoining or the adjacent line.

This resulted in the tripping out of the two inside circuits of the double circuit power lines. That is, there had

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been two tower lines with four circuits and when the one tower line had tipped into the other, the inner circuit immediately tripped out. It was not until the next day that the cause of the trouble became known and then repair of the

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damage was somewhat delayed until the authorities could investigate the damage, but by noon, reconstruction work was begun, the tower was hoisted into its normal position, new legs attached to the old tower, and by evening, the service was normally restored.

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Q. Was there any service interruption as a result of the loss of the tower? In other words, you had the two additional circuits on your other line to carry the load, is that right? A. Yes. Whether there resulted the loss of any customer service, I can't say, in connection with that outage. The fact that it occurred at about midnight would make very likely that no service was interrupted because system loads are normally very light, and I do specifically remember that day that very substantial excesses of generating capacity were put on at the Lake Shore plant, and it is not unlikely that the amount of service interruption was very slight from such a failure.

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Q. Now, in addition to the maintenance and inspection work on the overhead transmission lines, you have similar work to devote to the underground cables, do you not? A. Yes. The underground maintenance foremen all serve as inspectors on problems of this character, and in connection with their construction or operating work, routinely report to the General Dispatcher any jobs suggesting maintenance to be done.

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Such equipment in underground manholes as junction boxes, oil switches, similar equipment, are routinely inspected and tested every year.

Reservoirs of oil-filled cable are inspected each year. Pressure tanks on three-phase oil-filled cable are inspected every two weeks and manholes of this class are inspected every three months. Cables are particularly susceptible to damage from stray electrical currents, from the effect of electrolysis, and a special crew, routinely, on an annual basis, inspects cable sheets for electrolysis damage.

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In connection with the repair of such damage and the repair and construction of subways, excavation, of course, is a very important part of the job. Such excavation is, where possible, done by machine, but in densely populated and congested areas, machine digging is becoming increasingly difficult because of the number of obstructions encountered.

Q. Those obstructions, I assume, may be of varied nature—water? A. Of the widest variety. In any city, the number of utilities requiring space in the streets is very large. There are water lines, gas lines, sewer lines, telephone conduits, telegraph conduits, electric power conduits, certain other signal systems sometimes associated with the street railways, for example. Historically, these have been built in accordance with many standards. They are of varying depths and run in varying directions.

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The greatest of difficulty is now experienced in any major city in putting an underground line through at any reason-

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able depths, because of these obstructions encountered. Some of them have been there for a very great many years.

For example, the first street lighting in Cleveland was installed well before the existence of the Cleveland Electric Illuminating Company as such. Yet, in a recent construction job, the foundation for an enormous street lighting tower was encountered underground which had never been removed. In the early days in Cleveland, fire protection was realized by fire engines pumping water from some kind of fire cisterns which were buried in the streets and these are even yet encountered in construction jobs occasionally.

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Q. What are the major service problems encountered in the maintenance and operation of the underground system?

A. Well, the major service problem encountered in the operation of the underground system is cable failure, burn-out of the electrical conductors, and the location of the precise point at which this cable has failed often is a problem of considerable perplexity.

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For example, a circuit may be five or more miles in length and it is known only that there is a defect some place in that ground from one end to the other. The ingenuity and the skill required to detect the location of that failure, in

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order that good cable not be removed between manholes, but only the damaged cable be removed, that skill and ingenuity must be of a high order. That is the principal problem in connection with the operation of the underground division.

Q. These cables are located in conduits, are they? A. Yes, underground cables are carried in what is known as subway, which consists of one or a number of fiber tubes encased in concrete.

Q. What width, roughly? A. The fiber tubes are in diameter, the very earliest of them, three inches; the more recent ones now being installed in our system, four and a half inches in diameter. These run between manholes which are spaced at varying distances and the cable is then pulled through the resulting—or the duct which is installed in this concrete-encased envelope. It is very often between manholes that the cable has failed and the cable must then be pulled out, a new, good length pulled in and spliced at the two ends in the manhole.

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Q. So that in making the repair, you don't take down the street, but operate from the individual manhole inward?

A. That is right. The number of actual street openings required in the maintenance of the underground system is very, very small. It is only when due to wash-out through a leaky sewer or a burst water pipe, that the actual concrete envelope has lost its support and has actually sheared, that it is necessary to dig up the subway and repair the subway.

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Deterioration of concrete-encased subway, buried under ordinary conditions, is very, very slight. The failures are usually failures of the cables rather than the subway containing the cables.

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Mr. Hamilton: This again is a convenient breaking point, Mr. Examiner.

The Examiner: All right, we will recess until 2:00 o'clock.

(Whereupon, at 12:30 o'clock p. m., the hearing was recessed until 2:00 o'clock p. m. the same day.)

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## AFTERNOON SESSION

(The hearing was resumed at 2 o'clock p. m.)

The Examiner: You may proceed, gentlemen.

Whereupon ELMER L. LINDSETH resumed the stand and testified further as follows:

*Direct Examination by Mr. Hamilton (Continued):*

1349

Q. Turning now, Mr. Lindseth, to the company's distribution system, will you state what departments are charged with the maintenance and operation of the distribution system? A. The distribution system is in part overhead and in part underground. The operation and maintenance, however, both in the overhead and the underground phases is in charge of the Lines Department.

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The distribution system comprises the portion of the property from sub-stations to customers, the circuits have a range of voltages from 2,300 to 33,000, with the latter in general used for the supply of industrial customers at sub-transmission voltage, the lower voltages, 2,300 and 4,600 being used for the primary distribution system from which numerous small customers, such as residential and general commercial would be served.

The maintenance of such a system involves the replacement of poles, damaged either by accident or by decay, re-

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placement of wires due to deterioration or actual breakage due to storms, trees blowing across them and the like, transformers which have burned out, fuses which have burned out, underground cable which has failed due to electrolysis dam-

aging the cable sheaths or other causes, and in addition the maintenance of consumers' services.

The responsibility for the latter, particularly the service entrance equipment into a house and including the consumer's meter is the responsibility of the service department as distinct from the line department.

Within some limits of flexibility, the responsibility of the Lines Department would be between the sub-station and the pole serving the customer, and the responsibility of the Service Department would be for that portion of the facilities between the pole and the consumer's premises. 1352

This system is far-flung and covers the entire 1,700 square miles of the service area, and requires for this maintenance the service of 4,800 miles of line and 16,000 miles of wire.

The entire distribution system with extremely minor exceptions was constructed by the construction forces of the company. The exception to which I refer is the portion of the distribution system that would still survive from properties which were purchased during the period of expansion of the company from 1925 to 1929. The aggregate property purchased was \$6,000,000, of which, however, \$1,000,000 1353

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remains today in the fixed asset accounts of the company.

The property acquired was in general not of a standard of construction adequate to meet the company's service needs. In some cases, the standards were different from those followed by the company, and further than these, the property today is 10 or 15 years older than at the time of purchase, for which reason very substantial amounts have been retired.

With that single exception, then, the entire distribution system having been built by the company is maintained by

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the company as an integral or an interconnected single system.

As to the underground system, there are substantial parts of the distribution system which are built underground, particularly in the vicinity of distribution sub-stations where the number of circuits is very great and where overhead construction would be quite objectionable from a public relations point of view.

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Q. The construction work and the subway distribution is done by your own personnel, is that right? A. Yes. As is the practice in other phases of the underground system, the distribution is by the company's forces.

Q. Is this large extent of distribution mileage and wire mileage subject to various hazards by storm and other circumstances? A. Yes, particularly storms. The territory of the Company is in a rather severe storm belt in the country.

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The design is premised on rather severe wind and sleet loads, and while standards of construction are strictly first class, still the danger of mechanical severance of the circuits is so substantial that maintenance of service in times of storm is a severe operating problem.

Q. Can you illustrate that point? You spoke in your previous testimony of the storm in 1931 that had a direct bearing on the transmission facilities. A. Yes; in connection with the storm that I previously discussed of substantial intensity, throughout the company's service area, the effect of that storm on the distribution system was far more widespread than it was on the transmission system in connection with which I discussed.

For example, the particular storm in June, 1931, which was in reality three storm centers in the company's system, at various times during the storm, one-third of all of the Company's feeders were out of service. Most of them were restored, however, on the first day of the storm, and practically all of them by midnight.

Under this severe case, and it is by no means to be regarded as a normal or casual incident, 60 poles were broken over, 187 transformers were replaced, 13 oil switches, 35 primary boxes, 26 lightening arrestors, 11 series transformers, and 1,075 transformer fuses were required to remedy the damage.

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That would be definitely an extreme case, but it is illustrative of the magnitude of an emergency for which a routine operating personnel must be maintained against the occasional hazard.

Q. A situation like that requires really then, does it not, the services of a large organization, is that right? A. That is definitely true.

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In connection with that, there is required in order that service interruptions be not too severe, that the system be interconnected to operate as a whole, with emergency cross-ties between one distribution area and an adjoining area. That is a fundamental of design in construction which is very vital to the adequate operation of the system of this character.

Q. What is the customer record on company outages? A. On the average over the entire territory, a customer of the company experiences an outage of once in five years.

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The average duration of such an outage is about 45 minutes, so that the average duration of outage per customer per year is something less than 9 minutes. These are the records computed for the year 1938. Corresponding records for 1939 have not been computed.

The figures must not be construed to be that this is the record for either a particular customer nor for every customer, but is the average effect on all customers. Many customers, of course, suffer no outage. Many customers, un-

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fortunately, suffer outages of considerably greater duration and considerably greater frequency, but in the aggregate, this is the composite effect.

Q. How much work is involved in maintaining these various distribution lines in the system? A. As of last year, more than 270,000 man hours were spent in emergency repairs and maintenance of the distribution system, and the restoration of the customer's services. Of this total, about 25,000 hours are spent on underground work and 245,000 hours on overhead.

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The jobs entailed the emergency replacement of 186 broken or damaged poles, 202 fallen wires, 142 burned out or damaged transformers, 110 cable failures, and the necessary additional emergency replacement of equipment arising during operations. There were required from the public to apprise the company of this service outage situation, 120,000 telephone calls to be received and handled.

Q. How frequently are the poles and the distribution lines inspected. A. You are speaking now of routine inspection?

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Q. What would you tell me on routine inspection? A. In accordance with the company's practice of adequately anticipating maintenance to avoid failure in emergency, the company practices a policy of continuous inspection of over-

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head distribution facilities. The territory of the company is divided into a number of inspection areas to which individual inspectors are assigned, and the areas are so fixed in size that all of the facilities within the area may be examined each year.

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Q. And of course, in emergencies of the character you have mentioned, that extent of inspection or frequency of inspection may well be increased, is that correct? A. In the event of major emergency, there is likely to be after the emergency damages are repaired, an additional inspection of the system to detect residual damage which had not been repaired by the emergency clean-up crew.

Q. Is the purpose of the inspection not only to discover breakdowns that may exist, but also to estimate future life or anticipated life of particular segments of the line? A. Yes, in connection with the routine inspection of facilities by the district inspector, estimates are made of the estimated surviving life of the individual units of property.

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For example, in the event that a major job is to be done on a pole, or to change a transformer or perhaps to change cross arms and air conductors and the remaining life of that pole were to be but two or three years as estimated from the condition, or perhaps that the ground line were rotting and ultimate failure takes place, it is economical to forego the two or three years of remaining life of that pole and re-

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place it at the time the job is being done with a new pole, since the cost two or three years hence of then replacing the pole by expiration of its ultimate life would exceed the value of the two or three years of additional service which could potentially be realized.

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For that reason, these inspectors in their district inspections, not only report on the condition of equipment which is in need of immediate replacement, but likewise are called upon to pass judgment on the economy of replacing equipment before the expiration of its ultimate life when major construction is being done in the vicinity.

The same prevails, for example, if two poles were being replaced, one on each side of a third, and the third were to have an estimated short additional remaining life, with the construction crews in the neighborhood, with the poles being transported to the job, the economics almost invariably suggest the replacement of the middle pole prior to the ultimate expiration of its life.

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Q. In addition to problems created by storms in the service of these lines, are there any other service problems which require solution in maintaining the lines? A. The system of the company is in a rather heavily wooded section of the country, and one of the severe obstacles in maintaining continuity of service is the problem of tree troubles on overhead distribution lines.

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For example, at 2,300 and 4,600 volts, although the conductors in the distribution system are insulated, the presence of a wet branch across two wires results in the outage of that line until the branch is either removed or the conductor is burned clear. This is a typical case of tree trouble. The

problem is solved in one of two ways—either by the erection of very high poles and the distribution is carried over the tree tops, or else the trees are trimmed and the pole lines carried under the tree branches to avoid this interference.

The second of these solutions is not as good as the first, since falling branches can drop on the wires. It is, however, much cheaper from an investment point of view. Construction of high pole lines over the tops of trees is first of all expensive, and secondly is often only a temporary expedient, because the trees are likely to continue to grow up into the wires.

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Q. What has been your experience with wires down due to falling branches of trees? A. Again, in the aggregate, the outages due to wires down is only one outage per year per 100 miles,—a good figure. But in specific cases, individual feeders may have a very much poorer record.

For example, there has been experienced in the past a condition so serious on one feeder as to result in 35 outages per 100 miles of wire per year. This is a condition, however,

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more serious than the company can tolerate, and a line suffering so poor a record of service reliability is rebuilt and replaced with the problem eliminated by one of the two methods I have described.

In the trimming of these trees, the company does not use its own construction or maintenance personnel, but in all cases hires professional tree trimmer service companies to do the job.

This is obviously better from a public relations point of view because consumers prefer to have their trees trimmed

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by experts. Actually, too, it probably results in an improved job due to the skilled persons of more experience in this problem.

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In 1934, the entire problem of tree interference with distribution systems was studied and a comprehensive analysis based on which study it was determined that certain areas of the company should have the trees trimmed on a routine basis every year. In certain other areas, the trimming on a two-year basis was found to be adequate; and in the rest of the system on a three-year basis. Such areas are plotted on a map and the frequency of trimming is changed as experience shows of the conditions that have changed.

As the result of such a comprehensive approach to the problem, the feeder which I had mentioned which had suffered an outage of 35 times per 100 miles per year was reduced in the number of outages to 5 outages per 100 miles per

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year.

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For the system as a whole, prior to 1933, a three-year average of all cases of wire down due to tree trouble was  $7\frac{1}{2}$  times per 100 miles per year.

As a result of these efforts, the aggregate effect has now been reduced to the figure I have mentioned of one wire down per 100 miles per year for all causes including tree troubles.

Q. In general, would you say that extensions are being made all the time in the distribution lines, in additions, and so on? A. Yes, that is correct. Because the area is in neither the urban sections nor the rural sections 100 per cent. served, and in accordance with the file schedules of the company, there are line extension schedules under which the service

facilities are extended in either urban areas or rural areas and construction takes place each year.

Q. In other words, within the service area shown on Exhibit 21, a gradual process of increased saturation of lines is taking place, is that correct? A. Yes. Last year there were built 90 miles of new distribution lines. This construction of 90 miles of new line required the setting of 3,700 poles and 400 miles of wire. The jobs required 300,000 man hours of work, and resulted in substantial extension of the company's facilities.

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The rebuilding of lines is usually occasioned by the inspection reports of these district inspectors who had reported conditions of such a character as to justify substantial rebuilding or from load growth in a territory requiring the additional facilities to a pole line, such efforts requiring rebuilding of 110 miles of pole line, replacement of more than 4,400 poles, and the expenditure of more than 330,000 man hours. This work entailed the installation of 5,400 transformers, the removal of more than 4,200 transformers, and numerous supplementary items of incidental equipment, pole line hardware, guys, and the like.

Q. Would you expect this tendency toward increased saturation of lines within the territory to continue? At least, with respect to your record in the past. A. For the immediate future, yes. The construction of new lines will definitely continue for the near future. The rebuilding of existing lines will likewise continue. In general, load density is increasing. The energy consumed per customer is definitely on the increase, and in the areas where distribution facilities are now existent, vacant lots are being built up

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with houses and apartments and small factories are being located, and in many cases the existing facilities will be found to be inadequate and require reconstruction or rebuilding. That effect will without question be with us for a long time. —775—

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Q. Do you have a consumers' service organization? A. Yes. All contacts with the consumers are maintained and carried on through a consumers' service organization. Through this organization, the meters are read, the applications for service are made, the requests to have service facilities increased are made, and it is through the many contacts of this consumers' service organization with the public that the company is able to maintain a high standard of public relations with the consumers.

This group in addition to the functions I have mentioned, handles the inspection services on consumers' premises, and in general is charged with the physical property of the company between the pole and the consumer, and the relations with that consumer.

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Q. Does it answer inquiries as to lighting problems? A. Yes, all inquiries to the company, whether related to problems, bill complaints, applications for change of address in the event of moving,—all such inquiries and complaints are handled through the consumers' service organization. A very large number of telephone calls which I mentioned previously, 120,000 in number received by the company each year to report to service outage or similar problems are made through the consumer service organization. These outages calls are accepted and received through 24 hours of the day.

In addition to service calls of a trouble nature, 90,000 calls are received pertaining to meter transactions, 8,000 in-



quiries are received in regard to bills rendered, This is a substantial activity of the company and requires 9 per cent. of all of the employees in the service of the company. As of the end of last year, 337 employees were engaged in the service efforts of the company.

Q. You spoke of meter transactions. What do you mean by that? A. A meter transaction may perhaps be described as the request of a new consumer on moving into a premises to have the meter charged to his account, and similarly on his moving from a premises, to have such a meter disconnected in his name and blocked, so-called.

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Q. Now, as to these calls which relate to service to the consumers, that is customers' complaints, let us say, what is the nature of those calls? A. Of the 120,000 service calls received from customers, 90 per cent. 110,000 of them, are so-called no-light calls. A consumer calls the service department and says, "I am without light; will you fix them?" Of these No-Light Calls, 100,000 are from residential and small commercial customers, and all but 10 per cent. of these are caused by troublesome conditions over which the company has virtually no control, that is a loss of service has been occasioned from conditions arising on the consumers' own premises, such as faulty wiring, faulty equipment, overloads

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on inadequate wiring systems, amateur wiring by the boy in the family, and similar problems. 6 per cent. of them are considered as street lighting calls, calls made by customers to report that the street light in front of the house is burned out. 3 per cent. of them are emergency calls of a serious nature reporting wires down, trees on the wire or other



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problems requiring emergency action because the safety of the public is involved. About 1 per cent. of the calls are no-power calls from large commercial and industrial customers and others where different type of maintenance and trouble personnel is required to remedy the emergency.

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Q. What is your record in meeting these emergency calls as to the time required? A. In connection with the statistics I gave on the average duration of outage of 45 minutes per year, that is the overall time required from the receiving of the service call from the consumer to the restoration of service to the consumer. It does, however, likewise include outage caused by failure of the facilities on the company's own equipment, such as the sub-station or a cable over which the consumer has no control.

Q. These meters on the customers' premises are tested, are they not, from time to time? A. Yes. In accordance with the Company's practice of routinely testing and inspecting meters in an average year, 80,000 meters are re-

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moved from the premises and are tested in the meter laboratory. During a similar period, a year, 9,000 meters are tested in the field.

Q. How is that done? A. Meters in the laboratory are tested on a meter test board in which are carried phantom circuit, so-called. The meter circuits and the meters are tested under conditions simulating actual service conditions of load, voltage power factor, and similar conditions. Service meters, as would be expected from the volume of the work—80,000 per year—are tested on a production basis. Special meters of the industrial type or handled in a some-

what individual manner and often each is a specialized problem.

Testing in the field is similarly against standards which are calibrated in the company's research laboratories. Some meters in particularly difficult service installation conditions are tested at rather frequent intervals. The others, when installed under service conditions such that the deviation from theoretical accuracy is not likely to occur and if it does occur not likely to damage such meters are tested on a much less frequent schedule.

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Q. Where do these calls which reach the consumers' service organization come? A. The major portion of such calls are made to the main office of the company in Cleveland.

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In the outlying districts, such as the territory represented by the eastern portion of the system as shown on Exhibit 21, in such areas the calls are made to one of the 9 branch offices which serve this entire territory.

In quite rural territory, referring to Exhibit 21, such as Orwell, for example, a local service representative is permanently located there. Similarly, in the village just north of Orwell at Rock Creek, a service employee is permanently located there. Those are towns about 8 miles apart, but in order that the service may be made available on a 24-hour basis throughout the week, arrangements are made with the telephone company that in the event a service call is received in Orwell and the local representative is unable to be reached, that call is sent to Rock Creek, and vice versa.

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Similarly, in relieving these persons, since 24-hour duty is arduous, these men exchange Sundays off, for example, and a problem of Sunday maintenance in one city or one

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town in the event the local representative is at the ball game, is handled by the telephone operator adjoining that town.

In this manner, while the control of the service policies throughout the system is largely centered in Cleveland, the advantages of localized service are realized.

The number of these local branch offices is 8, outside of the main office in Cleveland, of which 7 are in the territory outside and to the east of Cuyahoga County. One of these 7

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is right at the edge of Chagrin Falls. These local branch offices are located at Ashtabula, Chagrin Falls, Chardon, Conneaut, Fairport, Geneva, Jefferson, and Mentor.

Q. What is the function of the branch offices in each of these areas? A. From some of these branch offices, construction work is scheduled. The line foreman reports there, the scheduling of material has to be handled on the job is made through the office. In all cases, applications for service are received and handled through these branch offices. They afford opportunities for these consumers to pay bills, to make complaints if they care to, to have service increased or changed. Those, I think, are in general the functions of these branch offices.

1392

Q. You have spoken of a so-called local representative. What is his function? A. The local representative in an area where there is no branch office is to represent the company in virtually all of its phases of contact with the consumer requiring local contact. The usual contacts between the customer and the company requiring so-called local management or local representation are in general to apply for service or to discontinue service, to pay a bill or to report a case of trouble or lack of service. Those three efforts con-

stitute the vast majority of the company's contacts with its customers.

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Hence, in the territories where the volume of business is inadequate to maintain even a one-room, one-man branch office, there is still a local representative such as I have described in the villages of Orwell and Rock Creek.

Q. Who operates from his own home? A. He operates from his own home. He reads the meters in the territory, he has a car, a company car, and handles minor cases of trouble. To him are reported lights out on a farm or a home; he fixes them. He installs service as required within his ability. He in general is the Company in his territory.

1394

The listing in the telephone book—and this is a local village telephone book in Rock Creek—the local service man is Mr. Henry Robinson, listed as C. E. I., trouble man, number, Rock Creek 2441. If no answer, call Orwell No. 122-A.

Off the record.

(Off the record.)

1395

Resuming now,—in this far-flung territory where load density is not great, service requirements are extremely difficult. However, although distances are great, traffic congestion is not a serious problem, and the average time required to handle a case of trouble reported in this eastern portion of this company's system where the distances are small and the lines are rural, the time required to handle trouble there is no greater than is required in the city of

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Cleveland where the distances are much shorter but the traffic congestion much more severe.

- In connection with this service activity, one of the opportunities for improvement of public relations between the company and its customers arises out of a situation where the consumer's bill is going to be awfully high. When the company on its routine meter reading finds that the energy used by a consumer has very drastically increased, the company in advance of sending out a bill to that consumer,
- 1397 sends an inspector to the premises to determine the cause of the drastically increased use. This has been very beneficial to the company in its maintenance of public relations. The inquiry by the inspector of the customer usually takes the form of a question whether that consumer has bought some new load consuming device or what it is that has brought about his greater energy consumption to a figure very markedly higher than it had been in the previous month. In many cases, the company is aware of this increased use that his meter has shown because of the purchase of a major appliance; because of increased use due to illness or other causes, but in many cases that is not at
- 1398 fault directly; the wiring may be faulty in the consumer's house, the consumption may be drastically increased because of a ground circuit in the wires; and a genuine favor has been done that consumer telling him of his increased consumption and the responsibility is his to fix the wiring and

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maybe a wrathful customer has been saved in his good will to the company through the use of these inspectors.

The volume of this questioning of abnormal bills is rather substantial. 36,000 calls were made in 1939 at the



request of the Consumers' Accounting Department to determine this cause of abnormal use in advance of billing the customer. In addition to these 36,000 calls made at the request of the accounting department, 12,000 additional calls were made in response to consumers' requests to determine the cause of increased use after receiving bills.

Portable meters are sometimes installed on the consumer's premises to check the current consumption of new appliances, refrigerators or ranges or other energy consuming devices when the curiosity of the customer as to the energy consumed justifies his making the request. 1400

Q. In Cleveland proper, how do you handle service complaints or inquiries? A. In Cleveland proper, and by Cleveland proper I refer to Cleveland and its suburbs shown on Exhibit 21 as substantially all of Cuyahoga County,—this area is divided into 12 districts, each of which is subdivided into sections ranging from 3 to 10 sections per district. Trouble crews working in overlapping shifts are assigned to these sections of districts. A trouble crew is a one-man or a two-man or a three-man crew, depending upon the local

—784— 1401

conditions and the character of the territory served. Trouble calls are received in the central service department of the company, they are received usually by telephone, and a notation is made in this service organization of the nature of the trouble, the location of the trouble, the service report is then turned over to a trouble department whose function it is to restore service in accordance with the requirements. The trouble dispatchers have before them also a large scale map of the company's areas on which there are continuously indicated the then present location of any trouble crew.



1402

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For example, if in response to a trouble call, crew No. 4 is dispatched to a certain address, such address is indicated with a tab on this map. Before leaving those premises that trouble crew calls in the office to inquire as to his next assignment, and it is this trick which results in cases of trouble being cleared up in these astonishingly short times that we like to talk about.

1403

For example, not infrequently they will call up reporting failure of lights or loss of service, and the trouble man will be able to report to those premises within a short time as one minute or two minutes, quite bewildering the customer. The answer is, of course, that the trouble crew is just next door or just across the street, and has just completed a job and called in the office at the time that the new trouble call was

—785—

received, and the trouble crew was able to walk across the street and ring the door bell and say "We are here to fix your trouble."

We like to talk about those incidents. Unfortunately, we cannot handle all cases with quite that dispatch.

1404

Significantly, the majority of trouble calls is received during the daytime. 75 per cent. of the calls on lighting trouble are received during the daylight hours. The peak is about 8 in the morning, and they continue fairly high all during the morning, decrease at noon, rise to another secondary peak at twilight, and drop off to a very low level during the very early morning hours. Accordingly, the number of trouble crews or trouble trucks in service varies during the different hours of the day, and although during the 24-hour period there is an aggregate of 30 crews of all classes, it is not to be understood that these are equally divided all

of the time. During periods of storms, these trouble crews are supplemented with auxiliary or emergency crews, and during such periods, as many as 12 of these trouble dispatchers are required on duty to handle the substantial volume of incoming calls.

In general, 16 crews serve the company during the day-time, and during the early morning hours only 2 crews are required in substantially the Cleveland area where are located about 300,000 customers.

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Q. Have you indicated the principal causes of outages on customers' premises? A. The principal cause of outage on consumers' premises is the addition of load quite in excess of the capacity either of the wiring or the fuses. The consequence of such excessive load conditions is of course the burning out of a fuse, the replacement of which should be the responsibility of the consumer, but which is in reality the responsibility of the company in response to a call from the consumer saying that his lights are out.

In some cases, these excesses of load reach rather substantial proportions. One of the frequent cases is that of a small meeting hall or lodge or church where normal service might be of the order of a few kilowatts, but during a period of a social or a bazaar of some kind, very substantial increases in the load are made and right at the time when the business should be at its best, the lights go out. Such a situation is embarrassing alike to the company and the consumer. It usually results from negligence on the part of the consumer to provide for the increased service requirements in advance, and requires emergency handling on the part of the company. 1407

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In some cases, this situation of amateur electricians fixing up the premises results in rather serious consequences to the company, since the consumer takes amounts of energy out of all proportion to the facilities on the pole to supply

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that consumer. That is, the uses in the house are substantially increased, but the overload to the transformer on the pole is so serious to either blow the fuses there or actually to result in the burning out of a transformer.

1409

Q. Are there occasions where you find it necessary to loan equipment to consumers? A. Yes, in some cases equipment is loaned to consumers for their own convenience where the company can thereby render a real service and where it would be a real hardship on the consumer to buy or rent his own equipment.

1410

For example, there was a recent case—this does not quite illustrate the point but is applicable in the matter of flexibility of service requirements—of a steamboat having burned at a dock in Cleveland. The boat sank and it was going to require pumping out of very substantial quantities of water to make it again serviceable. The installation of permanent equipment, transformers and lines was obviously not to be recommended, and the company in this case installed portable equipment on trucks amounting virtually to a mobile substation, the cost of which was much reduced to the consumer, and the pumping job was done and the equipment returned to the company's stockrooms.

In general, the opportunities for creating good will in the handling of service problems of this character is very

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great, and the company makes every attempt to realize all of the advantages of giving such service at reasonable cost, because doing so results in very definite improvement in the good will of the customer toward the company.

Q. Do you have a consumers' accounting organization?

A. Yes. In connection with this vast service job, there is required a very extensive consumers' accounting organization. Part of the duty of the consumers' service organization is the reading of meters on consumers' premises, the results of which are turned over to the accounting department for billing. The consumers' service organization also works closely with the consumers' accounting organization in these matters of service complaint involving bills, and more especially in these matters of inspection of abnormally high or abnormally low bills.

1412

Q. What are the functions of the accounting organization? A. The functions of the accounting organization are to prepare bills and accounting forms, to render these consumers' bills, to report balances usually on delinquent accounts, and to maintain the records; to provide for the investigation of abnormal bills, through the service department, to furnish such information as is required, and to compile statistical information.

1413

These functions are performed in the routine operation of the department in connection with the four fundamental

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objectives which are assigned to this department. They, too, have a function of maintaining good consumer relations by serving the consumer speedily and efficiently. They are further required in their normal function to render these bills

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under the proper rate schedules without error and as soon as feasible after the reading of these meters on the consumers' premises.

They have the definite objective of maintaining accurate current records available for very quick reference on inquiry from the customer, and they have to accomplish these jobs at low cost to the company, and of course indirectly to the consumer.

1415

This effort of consumer accounting requires 154 employees at an annual expenditure of \$250,000. Through the efforts of this department, about 4,000,000 bills per year are prepared by the several methods employed, whether mechanically or manually. Almost 200,000 requests for information on consumers' accounts are answered, and more than 45,000 abnormal bill investigation requests are prepared.

It is thus seen that the efforts of this department are a substantial effort in the company's operations, and one of very considerable importance.

1416

Q. Does this department handle the steam billing as well as the electric energy? A. Yes. The number of steam customers is slightly more than 600. The billing for the steam

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customers is handled by the customers' accounting division who prepare about 6,000 steam bills per year.

Q. What are the subdivisions of the accounting organization? A. In order to perform these numerous jobs in a manner economical and efficient, the organization is divided into a number of functional groups, 11 in fact. One of them is the addressing and bill printing group which maintains the files of the addresses, prepares the bills, that is the

printed bill in advance of having the consumers' billing information put thereon.

A second group, the meter auditing group, which records changes in meter reading, audits the subtractions made by the meter readers and prepares the reports on the abnormal consumption. These are the auditors.

Third, there is a billing group for the residential and small commercial accounts which prepares and approves the actual bill.

Fourth is a ledger group maintaining the records of these accounts and posts the cash payments and the revenues.

There is a large commercial account group which as its name suggests, takes the responsibility for large commercial accounts, a special ledger group handling special accounts, a cash sorting group which posts the cash stubs representing payments, sorts the stubs for posting and similar

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duties.

There is a meter deposit group, and an uncollectible account group maintaining records on meter deposits and final accounts.

A customers' information group is a very important group which handles direct inquiries from customers in regard to their accounts.

A branch office group, which handles the billing relations as between the main office and the branch offices in which meter reading and billing is prepared.

Then, lastly, a miscellaneous group, maintaining controlling accounts on the customers' groups and certain miscellaneous functions.



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The organization of a department of this character is quite complex. The number of special situations arising is really quite large. Even though the bulk of the duties are, of course, quite routine, the handling of 4,000,000 bills is of course a production job.

Q. Necessarily, they have to be turned out very rapidly?

1421

A. Yes. It is a distinct inconvenience to the company to have delay between the time of meter reading and the time that the bill is rendered. It is an unnecessary delay, and one which with an efficient and well-trained organization can be reduced to a very short time.

The Examiner: We will take a short recess at this point.

(Short recess taken).

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The Examiner: You may proceed.

*By Mr. Hamilton:*

1422

Q. What are the principal service problems encountered by the consumers accounting organization? A. One of the principal problems encountered in connection with the prompt rendering of bills is that of locked premises to which the meter reader can not gain access. These meter reading schedules are built up far in advance to equalize as evenly as possible throughout the year, the number of days billed in a given monthly bill.

For example, if the period covered by two or more subsequent meter readings were to fluctuate widely, the bill

would fluctuate even though the average rate as which the energy was used had remained constant.

Now, in many instances, when the meter is installed indoors, the meter reader arrives at the premises and finds them locked. The housewife is away. When this condition is multiplied by the many thousand times that it occurs on the system, a problem of some considerable magnitude ensues.

Expense goes up in proportion. Sometime ago it was the policy of the company, in connection with such circumstances to make three independent calls on the premises if necessary each month in order to read meters. If these premises were then locked on each of six successive calls, letters were written asking the customer for a definite appointment to be on

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the premises so that the meters could be read.

This method, however, was quite too expensive. The next development in the handling of the problem of locked premises was by the use of postcards with dials printed on them, similar in appearance and form to the dials pictured on an electric meter face, and the cards bore the message requesting the customer to look at his meter, draw the position of the dial hands on the postcard and the meter would be read in absentia in the office.

1425

These were then mailed to the customer and had return address to be returned to the company's office. A reasonably high percentage of these cards were returned, about 60 per cent., but a third of them returned were of no use. Surprisingly, many of the customers had read the gas meters instead of the electric meters. Many of them had the dial hands in obviously incorrect positions. In some instances, the card was not returned but letters were directed to the

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Company in which the customer refused to work for the Company without compensation.

It was obvious, after an experimental period, that this method just wasn't the answer. In 1927, following a long period of experimentation with these and other methods, outdoor meter installation boxes were designed by the Company's service department and transfer of meters was begun from inside to outside the premises.

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Considerable progress has been made since that time in moving meters, and wherever possible now, all new installations are provided with outside meters and at a time of change in occupancy of a building, when it is feasible to do so, a meter is changed from indoors to outdoors.

1428

As a result of this program, now, about 60 per cent. of the meters of the company's residential customers are outside the premises. For those meters still not installed outdoors, the practice is this: If the premises are found locked on the first call, no follow-up is made until the regular meter reading date one month later. If the premises are again found locked the second time, arrangements are made for one of the Company's special turn-on and turn-off crews, who would be working in that neighborhood, to get the meter reading. If the premises are then still locked, the account is turned over to a special investigator who makes every effort to locate the customer and if he locates him, suggests the transfer of the meter from inside to outside.

Ultimately, it is expected that meters will, all of them, be located outside and it is to this end that the Company's program is directed.

Q. Does the rendering of these bills necessitate the use of highly specialized machinery? A. Yes. This is a highly specialized operation in which opportunities for machine production are realized. For example, in the preparation of

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these bills, blank paper or blank bill book is fed into machines from which there are obtained the printed bill in four parts. One is the bill to be mailed to the customer, a second part is the duplicate to be retained by the Company, a third part is a collection record, and a fourth part is an office or a ledger record. 1430

The printing of these—and they are printed on both sides—is accomplished in this bill printing machine, and during the operation of printing the blank form on which the billing is to be done, the customer's address is printed with his meter number, the ledger control data, and the type of account, by symbol.

This, then, is turned over to the billing machine operators on which the data are entered and the subtractions and the calculations made. In addition to the printing of just the bill form, opportunity is also taken to present a sales message to the consumer, and each month there is printed on the blank bill form a sales plug in the form of a message on the desirability of certain types of appliances or better light, better sight, or the opportunities of cooking electrically, and similar messages. 1431

The opportunity is a valuable one, for the message goes to the customer twelve times a year and is taken advantage of by the advertising in the sales department. In the cal-

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ulation of this bill, the data as indicated from the meter

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reader's book is placed on the bill. The subtractions are made, the bill computed in accordance with the account classification and the schedule under which the customer is to be billed, the machine—this is done on a billing machine. The machine cuts the bill to size, scores it so that the cash stub portion of the bill can easily be removed by the customer for enclosing it with his check and the complete cycle performed by the machine.

1433

Addressograph stencils are kept for all meters, whether they are actually in service or not. That is, the billing is primarily tied to an address rather than the name of a consumer and if there is installed in a house a meter bearing a certain number, that meter carries an Addressograph stencil in the record files, even though there be no tenant in the house. The name of the tenant is then missing, removed from the Addressograph stencil and when that Addressograph stencil goes through the machine, no bill is prepared for that meter because of the vacant premises.

1434

Statistics show that in metropolitan Cleveland, all the customers move on an average of every three and a half years. This gives some idea of the job involved in changing the meter records, the number of such changes required per year being about a hundred thousand for changes of address within the territory.

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This requires continual change in the files of these Addressograph stencils from which the bills are rendered, and the meter reading and the files are so synchronized that the Addressograph stencils are changed on the very day that the meter reading is done in order that bills are not prepared for accounts which are not read, and vice versa.

Q. You say a hundred thousand? You mean a hundred thousand annually? A. Yes, a hundred thousand annually. Simultaneously with the printing of the bill to be mailed to the consumer, the machine also does the totalizing by printing on a tape the necessary information including the type of account, the number of kilowatt hours billed, the revenue billed, and the rate schedule on which it is billed, so that at the conclusion of the run of these bills through the billing machine, there may be taken off from the totalizing tape the number of bills which have been billed for that group under each account and the other statistical data which are valuable and necessary to the company.

1436

The operators of these machines produce bills at the rate of over 300 per hour and good operators produce as many as 1,600 bills without making any mistake which requires a reprinting of a new bill. The average among good operators is to produce four thousand bills—that represents some thirteen working hours—before making a single mistake which

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the operator, herself, does not detect.

Mr. Hamilton: Off the record for a moment.

1437

(Discussion off the record.)

Mr. Hamilton: On the record again,

*By Mr. Hamilton:*

Q. Where is your consumers accounting organization located? A. The consumers accounting organization and all of the necessary mechanical bill calculating machines are located in the central office in Cleveland. In the branch



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offices, incidental work is done in connection with meter reading and the manual preparation of bills, but meter reading books from these districts are sent into the Cleveland office for calculation of the consumers bill, and the bills returned to the territory.

1439

Q. You mentioned some of the service problems arising out of the conduct of this accounting organization. Are there others which you haven't mentioned? A. There are a very substantial number of special problems arising out of this function of billing. For example, real estate interests who may own properties in various portions of the city, the reading dates for which are diverse, like to have that bill rendered for all of the premises as of the same date, say on the first of the month.

This requires special treatment, because billing is normally done every day in the month, or at least every work-

—799—

ing day in the month, when consumers bills are sent out one or two days after the meter is read.

1440

The retaining of such special accounts and contacts is a troublesome problem, an inconvenience to the company and requires an amount of effort out of all proportion to the convenience which results to the customer. Certain governmental agencies require that bills be certified and rendered in duplicate or triplicate or quadruplicate. This, too, requires special forms and special handling.

Some customers request that their meters be read on certain stated days. For example, the lady of the house is to be home only on a certain day and asks that the meter be read on just that day. Such out-of-routine requirements make for confusion.

Not infrequently, payment is received with no identification of the consumer from whom it comes. A postal money order will be received, checks will be received with either inadequate identification or no identification and this causes quite an inconvenience to the Company in the event the consumer isn't identified.

It is obviously a nasty problem because the customer has conscientiously paid his bill, but the company just doesn't know it.

Q. You meet these requests, do you, for specific days for meter reading? A. Well, within the ability of the company —800—

to do so, yes. Consumer relations are very important in a business such as ours and rather extreme inconvenience is suffered by the company in order to meet the requirements of its customers. This is a very important function of the company; it is a very substantial item of expense.

The cost of preparing the bill, without delivery of that bill but just the preparation of that bill, amounts to six cents per bill rendered or a cost of 70 cents per year per consumer.

Q. Includes the cost of reading the meter, too? A. No, that is the cost only of consumers accounting.

Q. You maintain a credit and collection division? A. Yes, this, too, is an important public relations contact department of the company since the habits of people, being what they are, require that rather substantial collection efforts be given to getting the revenue in as income.

The Collection Department of the Company has half as great a number of employees as the consumers accounting department, requires 74 employees and has an annual ex-

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pense, including uncollectable accounts, of \$300,000.00 per year.

Q. What are the other functions of this division? A. The credit division of the Company handles not only the collection of delinquent accounts, and the number of such contacts is about 45,000 per month, or more than 530,000

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delinquent accounts per year, but in addition, handles credit investigation of new accounts in a number reaching 15,000 per year, and complaints which reach 4,000 in number.

1445

The contacts of this department with the public then aggregate more than 100,000 contacts with customers per month, since in the handling of those delinquent accounts sometimes two and three calls are required. These 106,000 contacts per month are made up of about 10,000 office contacts, 29,000 contacts per month average by mail, including collection notices mailed and about 60,000 collector contacts per month where the collector visits the customer on the premises, and some 6,000 telephone contacts.

1446

The aggregate of all of these is more than a million and a quarter contacts between the Company and its customers through the credit and collection department, an opportunity to incur goodwill through doing a good job or distinctly ill-will through poorly handling the job.

Q. Is the maintenance of this division an expensive item from the standpoint of operating expense? A. Based on the results, the Collection Department has done a very satisfactory job. The credit losses resulting from this activity amounted last year to but one-sixth of one per cent. That is, uncollectable accounts written off amounted to less than \$50,000.00 in a gross revenue of \$29,000,000.00. The index

of the effectiveness of the collection policies of the Company

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may be measured by a ratio described as the "collection percentage" which is the ratio between the amount of money collected in a month and the amount of accounts receivable at the beginning of the month. That ratio for 1939 was 97 per cent.

That is, the ratio between the average month's income collected to the accounts receivable was 97 per cent. From this may be computed the so-called collection lag or the average length of time between billing and receipt of the collection.

1448

There is neither discount for prompt payment, nor penalty for delayed payment in the rate structure of the Company and as a result there is no particular saving incentive on the part of the customer to make prompt payment of his bill.

In the matter of specific costs, in 1939 I have referred to the figure of uncollectables, which I incorrectly stated to be slightly less than \$50,000.00. In reality it was slightly more than \$50,000.00, being \$51,000.00

The average uncollectables over the last five years has been almost exactly \$50,000.00, and within narrow limits remains unchanged.

1449

The average cost of bill delivery, collection through cashiers and agents, operation of the collection department, and the uncollectable accounts, totals about \$375,000.00 per year or a combined expense per customer of about \$1.15 per

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year per customer for bill delivery and collection. When related to dollars of revenue, this becomes about one and a quarter cents for the unit collection cost per dollar of revenue.

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Q. What are the principal objectives of this division?

A. This division again, being a customer's contact division, has the fundamental objective of gaining and holding the goodwill of the customer and the community through the application of a liberal-common sense credit collection and adjustment policy.

1451

It is, of course, the duty of the company to collect for the service it renders to its consumers, in order that those who do pay promptly may get their service at reasonable cost. Secondly, the credit department is charged with the responsibility of turning over the accounts receivable of the company in the shortest possible time and to accomplish these foregoing two objectives with low cost to the company and at reasonable or low uncollectable account losses.

1452

Q. In its operations, does the division require any cooperation of other divisions of the company's staff? A. Yes, the meter division of the service department works quite close with the credit and collection division. All preliminary work up to the point of actually turning off service for non-payment, is done by the credit and collection division. However, if the means of this credit and collection division have

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been exhausted and the meter is scheduled for disconnection as a result of non-payment, it is the meter division employees who are responsible for such disconnection. These meter division employees are, however, authorized to make collections as an alternative to cutting off service and in many cases, of course, do make such collections.

Now, in performing these collection functions, this credit and collection division section, to minimize its ultimate job by commencing with the credit investigation of the new

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customers, one of the first functions of this division is to pass on the credit of new customers. It collects these past due accounts, deals with complaints, arranges settlements for unmetered service—unmetered service usually being stolen service through tampered meters. It conducts all correspondence and other contacts with consumers, and it supervises collection agencies which are located throughout the Company's territory, to whom consumers may pay their bills in lieu of payment to a branch office of the company.

Q. What are the subdivisions within the organization's credit and collection division? A. Well, the credit and collection group is organized functionally as is the consumers accounting group, and embraces a general group which supervises the operations of the division, collects large accounts and handles the relations with these collection agents.

1454

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There is a group of interviewers, a public contact group, who actually contact the public. There is a collection group on active accounts—that is, customers who have not moved or discontinued service—a collection group on final accounts for customers who have left the company's lines, and then a branch office group which correlates the activities of the collection division in Cleveland with the efforts in these various branch offices.

1455

In performing these functions, the Company's policy is to minimize red tape required incidental to opening an account, and application for service may be made by telephone or mail without at all requiring, on the part of a residential consumer, that he make a personal call at any office of the company, or sign any application, for residential service. Neither is there any deposit required or other security ex-



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cept in the case of transients or other persons with uncertain sources of income.

Q. How do you determine into what category the residential consumer falls? A. When a residential applicant calls up or writes in or makes in person a request for service, the credit clerks determine whether a deposit shall be required by getting from the applicant his name, his address at which he wants service, his former address where he had formerly been a Company customer, and his business connection. Based on these facts, if his credit record has been

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good at his former location, his credit record will be good at his new location. If he is unable to give such credit data as are required to establish what his credit situation is or will be, then a deposit is required.

Commercial customers, however, because the hazard or possibility of a bad debt loss is greater than that of residential customers, are scrutinized more closely for their credit. The applicant's personal record of his assets and his experience and the nature of his business are considered and if, after the consideration of these factors, it is felt that a deposit is required, such deposit is made.

1458

Signed applications are required from all applicants for commercial service, although they are not required for residential service.

Furthermore, in the handling of the collection of accounts, all consumers are not treated alike. That is, the collection policy of the company is to endeavor to give due consideration to the fact that some customers, although financially responsible, and able and willing to pay, inadvertently fail to remit—they forget or mislay the bill:

A second class of customers are those who, while responsible, have the habit of putting off payment until urged by the company to do so.

A third consideration is a group of customers who are

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honestly trying to meet their obligations in the face of discouraging difficulties; and a fourth group who are irresponsible, poor or incapable of managing their personal affairs and paid only when forced to do so.

Many accounts are eliminated from collection work because the amount of the delinquency is too small to warrant a collection effort. For example, it is the Company's general practice to withhold from collection work all residential accounts on which the consumer owes for only one month's service and any account, whether it be a residential or a commercial account, if the amount due thereon is less than \$5.00. That is, if a consumer's account be at the rate of a dollar per month, no collection effort is made until the delinquency reaches \$5.00 which might be five months of service.

1460

If, during collection activity, a bill which had been, for example, \$8.00, is reduced by a payment of \$4.00, collection effort ceases on the remaining \$4.00 until the delinquency again reaches \$5.00; or, if regardless of the size of the delinquency, the customer pays more than one-half of his account, further collection action in that monthly cycle is stopped.

1461

Action on those accounts, which, however, are scheduled for collection, commences two days after the due date of the account and this due date is about ten days after the mailing

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date. After collection starts, there is a five-day interval be-

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tween the successive steps in the collection.

In order to differentiate between customers, based on their paying record, accounts are classified and designated in the credit department in accordance with the following designation: An "A" account is an old customer who rarely, if ever, is delinquent. Action on such a customer is taken only at the discretion of the sectional collection supervisor.

1463

A "B" account is an account of an old customer who is occasionally delinquent and collection procedure here is to make two preliminary contacts, either by mail or by a collector as the first two steps. Then there is sent a cut-off notice by mail. If payment is then not yet arranged, a cut-off collector is sent, who acquaints the customer with the fact that if the delinquency is not made up, service will have to be cut off.

1464

A "C" account is a customer who is frequently delinquent and habitually is in arrears and is paying on account. For such a class, there is one preliminary contact by a collector. Then a cut-off notice by a collector, and the third step is the sending of the cut-off collector.

A fourth class of accounts is the so-called "N" account which is that of a new customer who takes the same collection procedure as an old customer who is just occasionally delinquent.

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No charge is made for the reconnection of a customer whose service has been cut off for non-payment. Prior to the depression—or the most troublesome period in the depres-

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sion, in 1933—a collection charge of a dollar was made for restoring service which had been cut off for non-payment. This, however, worked some genuine hardship on customers who were quite unable to pay during the depression, and during that period, the re-connection charge was abandoned.

At the time of a request to be reconnected, after disconnection, the customer almost invariably comes into the office of his own volition and is then interviewed by the public contact group in this division. Effort is made to collect the full amount of the past due account before reconnecting the service, but the full story of the customer's circumstances is obtained and where these circumstances warrant, satisfactory arrangements for the completion of the payment of the old account are made and service is turned on on payment of less than the full amount of the old account.

1466

About 60 per cent. of the reconnections after cut-off are thus made with less than full payment, and the average percentage of payment before service is restored averages about 50 per cent.

On payment of this portion of the old account, the only other requisite for restoring service is that satisfactory arrangements be made for completing the payment of the old

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account.

The major service problem in this collection division is to make available to the consumer convenient sources through which the company may receive the revenue, and the customer may make his payments. To accomplish this ease of payment, the company makes available to the customers throughout the territory payment opportunities through

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so-called bill collection agencies. These bill collection agencies are eighty-five banks in the territory where at no charge to the consumer he may pay his bill, and thirty-one other agencies, other than the nine company offices, and these other agencies in territories where there are neither branch banks nor company offices may be merchants in the territory such as the grocer, or other accredited individuals to whom the consumer may pay his bill.

1469

The aggregate number of bills paid by check to the company offices by mail is not the large portion of the bills collected by the company. These bill collection agencies are distributed throughout the company's territory to insure adequacy of service to all customers with minimum of inconvenience.

Q. Does your so-called local representative handle this aspect of the work, too? A. Yes, the local representative is an accredited collector as well as a meter reader or a complaint investigator.

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Q. Previously, in your testimony, you spoke of other facilities owned by the company, quite apart from the generating stations, distribution lines, and transmission lines. Would you state the function which that property owned by the Company serves in the Company's operation? A. In the operation of this miscellaneous general-purpose equipment, operation of the shops and garages, there is a very substantial personnel required and a very substantial operating organization.

For example, at the garages of the company alone, there are required the services of 126 men who are charged with car inspections, painting, overhauling, and similar duties in

connection with the substantial fleet of trucks and cars. The Company's fleet of transportation equipment travels five million miles a year, uses five hundred thousand gallons of gasoline—or very nearly so—and is a very substantial problem in the company's operation.

A part of this division is the so-called transportation department, itself, which provides transportation service for the routine and emergency movement of materials. The transportation department operates twenty-three vehicles and is available on request from any department of the company to transport equipment or supplies or materials wherever required. The number of jobs handled in a year is 11,000, and of these transportation jobs, 98 per cent. of the

1472

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calls are completed on or before the scheduled time.

Transportation trucks are located in garages adjacent to warehouses in order to expedite obtaining materials and the loading of such equipment. Requests for moving material are telephoned to a schedule clerk or a schedule desk; the driver is given his order by telephone and the job is started.

In emergencies, the importance of such a transportation department is well realized. For example just two months ago, in June of this year, a particularly localized wind and rain storm broke off seven consecutive poles in a feeder line serving a small village in the suburbs of Cleveland. It involved the supply to the transmission station of a major radio broadcasting company and the village pumping station. The trouble department, of course, was promptly on the job, but was handicapped for lack of equipment because obviously a mobile trouble crew does not carry with it seven poles. However, the transportation department, on checking routine job

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orders on file, found that there was loaded at one of the locations, a trailer for the delivery the next morning of the same size poles to another job.

This equipment was redispached to the affected area, the material delivered, service restored, and the equipment returned in four hours.

This is, of course, an outstanding case of the oppor-

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1475

tunity of transportation equipment to reduce duration of outage in the event of emergency, but is characteristic of the class of service required of them and experienced by them.

Q. Now, you have various shops which are in operation. What are they? A. In connection with the very substantial amount of construction work performed by the company, there are also operated shops.

For example, a shop is required for the inspection, adjustment, testing and repair of transformers, and the transformer repair department performs such operations on as many as 4,000 transformers per year which have been removed from the Company's lines.

1476

This shop also inspects and tests approximately 2,000 new transformers per year, and it is, in general, the policy of the company to replace transformers on the pole rather than to make any emergency repairs except under extraordinary conditions, on the pole.

Such a removed transformer is then sent to the shop, is checked, reconditioned, and returned to the stockroom.

Another similar shop is the cable shop, where reclaimed cable is handled. Cable, after being removed from the ground, whether because it has been displaced by cable of another

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size or because a portion of the cable has failed, or for whatever other reason, is sent to the cable shop, where it is

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inspected, where the defective portions are removed and the good portions of the cable respliced into longer lengths for reuse.

This operation has been particularly beneficial to the Company. There go through this cable shop some 150,000 feet of used cable per year, and of this amount about 60 per cent. is reclaimed for re-use, and the balance is scrapped. About 65 per cent. of this salvaged cable is spliced into lengths up to as much as a thousand feet for re-use. The rest of the cable is returned to stock without splicing.

1478

Transmission wire, both bare and insulated, is also inspected in the same division and about 70,000 feet per year is passed through this shop. Substantial savings are realized in the reclaiming of cable which amount to as high as a dollar per foot.

Q. Where are these shops located? A. The shops are located at several points throughout the Company's territory. The two major shops are located in the Cleveland district at Miles location in Cleveland and at Brooklyn. Those are the two major shops of the company.

1479

In addition to the shop functions which I have described, there is an additional special equipment shop maintained to service the numerous items of specialized construction equipment, such as trenching machinery, concrete mixers, cranes, pole setting equipment, air compressors, pumps and the like,

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and there is in addition a tool repair shop to handle the numerous tools required by the Company in the construction

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and maintenance of the system. In the tool repair shop, not only is maintenance work done, but certain items of construction materials are either reclaimed or originally built.

For example, street lighting brackets are made in the tool repair shop, cable racks are made, ladders are built for underground manholes. The outdoor meter case assemblies, which I described in connection with the transfer of metering equipment from indoor to outdoor locations, are made or assembled in this shop.

1481

This shop builds special laboratory equipment. For example, when the research laboratory was recently in need of some highly specialized equipment not available in the market, such equipment being able to be obtained only by construction in accordance with specialized drawings, the equipment was built in the Company's own shop.

Q. Do you have warehouses among your properties? A. Yes.

Q. What purpose do they serve? A. The warehouses on the property are the locations at which these numerous items of emergency repair materials and routine construction and operating materials are maintained.

1482

The stores department operates as a single unified depart-

—816—

ment throughout the system, and it operates eighteen units, comprising a central stores office, five main warehouses, five sub-storerooms, four plant storerooms, two garage storerooms and one pole-processing yard.

Q. Does this particular phase of the operations require employment of a substantial number of men? A. The stores department has in the aggregate a hundred employees. 22,000 items of material are stocked. The average value of the in-

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ventory of materials is about \$2,400,000.00. In an average year about 620,000 items are handled in all stock dispensing transactions, and the average value of such materials handled in a year is estimated at \$2,000,000.00. Six hundred carloads of material are required in a year. Eleven hundred tons of scrap are handled.

In addition to the storage functions, this division handles the processing or the creosoting of 7,000 poles and 23,000 cross-arms—a very substantial effort.

Q. What is the nature of the material stored? Is it made up of wire and supplies necessary for lines? What would be the general description of it? A. The 22,000 items naturally cover a very wide range of materials and parts. The number of specific types of materials is obviously a small part of the aggregate of 22,000 items. By far the greatest number of items are specialized maintenance parts except for numerous items of equipment such as oil switches, re-

1484

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lays, or in the power plants the turbines, the boilers, the pumps, and for the line department such devices as insulators, disconnects and the like.

1485

A substantial amount of the material, however, is in the form of wire, cables, pole-line hardware, bolts, brackets, cross-arms, pins, tie-wires, and similar items.

Q. Are the warehouses you have spoken of distributed over the territory served? A. Yes. These warehouses are distributed for maximum convenience of the operating and maintenance personnel in order that the time required to get equipment and materials to areas affected by service outage will be kept to a minimum, and it may be said that on the system map, Exhibit 21, that such warehouses are

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distributed throughout the territory—one being located, for example, at Conneaut in the extreme eastern portion of the territory; the next one at Ashtabula, south of Ashtabula, at Jefferson; another at Geneva; yet another at Mentor, Chardon, Chagrin Falls. Then, moving into Cleveland and suburbs, the rest of these storerooms are located in Cuyahoga County with the exception of one maintained at the extreme western end of the system at Avon.

1487

Q. And that distribution is necessary to the efficient operation of the system? A. Yes.

Q. Are there any particular objectives of this division  
—818—

of the Company's operations other than those which you have mentioned? A. The principal objectives in the operation of an incidental department of this character, where contact with the public is indirect, is that the service to the company's trouble, construction and maintenance forces be adequate to permit these forces to render the necessary service, and that such warehouse efforts be carried on economically and with adequate safety to the Company personnel.

1488

The number of items should be kept to a reasonable minimum. As a result of the effort to keep this number of items at a reasonable but adequate minimum, the number of items carried by the stores department of the Company has been reduced from about 25,000 to about 22,000 at the present time. This has been accomplished by working off dead stocks, standardizing sizes, and a more careful scrutiny of items formerly put in stock from removal jobs where in too many cases material which was just junk was being saved and maintained in a stock.

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The stores department discourages the use of white elephants carried in stock, odd sizes, miscellaneous specifications of material, in its constant effort to keep reduced to a minimum types, sizes, styles and the like.

The material carried is carried under two requirements as to quantity maintained on hand. First, that the quantity

—819—

be adequate to take care of routine requirements for construction and normal maintenance; but second, that the quantity be adequate to take care of these very infrequent major emergencies that require very abnormal amounts of construction material.

1490

So that minimum supplies on hand are usually dictated by emergency, and there are fixed for each class of property—that is, each size of pole, each size of wire, each size of cable—minimum quantities permitted to be carried as estimated from the emergency requirements which result from very major disturbances in the community.

Mr. Hamilton: I think, Mr. Examiner, that again represents a convenient breaking point.

1491

The Examiner: All right, we will recess until tomorrow morning at 10:00 o'clock.

(Whereupon, at 4:35 o'clock p. m., the hearing was recessed until 10:00 o'clock a. m., August 7, 1940.)

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1492

BEFORE THE  
**Securities and Exchange Commission**

Docket No. 59-10

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IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

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1493

Hearing Room 1103  
Securities and Exchange Comm.  
Bldg.

Wednesday, August 7, 1940

Washington, D. C.

Met, pursuant to recess, at 10:50 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

1494

Appearances:

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell,  
48 Wall Street, New York, N. Y., Attorneys for the  
Respondents.

S. PEARCE BROWNING, JR., of Sullivan & Cromwell, 48 Wall  
Street, New York, N. Y., Attorneys for the Respondents.

RALPH C. BINFORD and

ARTHUR J. BUSWELL, Attorneys for the Securities and  
Exchange Commission.

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### PROCEEDINGS

The Examiner: The hearing will come to order. Due to counsel for both sides wanting to be present at another hearing we are starting a little late and I thought I would make that statement to explain why we did not start promptly at ten o'clock.

Whereupon ELMER L. LINDSETH resumed the stand and testified further as follows:

1496

*Direct Examination by Mr. Hamilton (Continued):*

Q. Mr. Lindseth, do you feel that the electric service rendered by the Cleveland Electric Illuminating Company is of high quality? A. As I have testified in the description of the physical properties, a fundamental criteria in the design of the system is that service be reliable and adequate for the consumers served. Similarly in connection with my testimony relating to the manner in which this system is operated, I have pointed out that a fundamental objective is that the service to the consumers be adequate in matters of continuity, reliability and other phases of service. The manifestations of high quality service to consumers and to the community are continuity and reliability of the electrical supply, itself.

1497

Q. If I may interrupt, you are speaking of your own company, of course, are you not? A. Yes. Second, that

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there be the necessary constancy of voltage and frequency. Third, that in the event of interruption of service that there be a reasonably prompt restoration thereof, and fourth, that there be promptness and convenience in furnishing service to new consumers, making additions to service requirements

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for present consumers in the metering, in billing in general, and in the handling of all consumer service and customer relations.

1499

Q. Has the unification, so to speak, of your electric facilities as to which you testified, provided the insurance for maintenance of this character of service? A. In my judgment only by virtue of the fact that the system is operated as an interconnected single system, unified throughout the territory in its physical properties and operating under well defined system policies of operation, has this high standard of service been able to be realized. It is the unification of the system into a single operating unit that makes possible the high state of development to which these properties have been brought.

Q. Now, would you illustrate further the theory of maintenance of good electric service by specific examples of the manner in which service is maintained?

I would like to have you refer specifically, if you will, to service interruptions. Have you any data as to the character of service interruptions? A. Although the Company's

1500

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property is relatively more exposed to hazards from storm and other interruptions by virtue of the fact that more than 12,000 miles of the company's 14,000 miles of circuits are carried overhead, still even in the case of this condition the record of service interruptions is such as to yield a frequency of outage per consumer of all classes in the aggregate for the entire system which is once in five years, or the reciprocal thereof, a frequency of outage of 0.19 times per year.

This over-all figure is for the system as a whole and is the composite for all consumers. Because of the variations

in the exposure of the system to causes of outage, such as the incidents of storms, lightning and the like, this record of service reliability is not uniform throughout the territory.

For example, within the territory immediately surrounding the city of Cleveland, the territory designated in Exhibit 21 as Cleveland and suburbs, including the portion immediately to the west of Cleveland, this incidence of service outage caused by failure of the Company's facilities is but 0.05 times per year, or a frequency of outage of once in 19 years.

1502

I should make clear in connection with all of these statements relating to the frequency of consumer outage, that the frequency figures which I am giving and the corresponding duration of outage figures which I will give, are those caused by factors over which the Company assumes responsibility, namely the failure of sub-stations, the failure of the Com-

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pany's primary or secondary distribution system, the failure of company owned transformers or service wires, but do not include outage suffered by the customer from causes over which he himself, supposedly has control such as, for example, the failure of wiring within his own premises due to neglect of adequate maintenance, inadequacy and improper operation, or any of the other causes which may result in an individual customer suffering outage due to his own causes.

1503

To resume then, and again referring to Exhibit 21, in the territory comprising the three counties in the eastern portion of the system to the right, to the east of the territory described as Cleveland and suburbs, the incidents of outage is at the rate of 1.58 times per year, or a frequency of outage per customer of once in eight months.

1504

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Summarizing then, the average frequency of outage suffered by all customers on the system is once in five years. Within the area described as Cleveland and suburbs, this frequency is once in 19 years. In the area comprising the three counties in the eastern portion of the system, this frequency is once in eight months.

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Q. Is the less favorable record in the eastern territory due to the larger presence of overhead distribution lines as distinguished from underground lines in the city of Cleveland? A. Yes, that is fundamentally the cause for the difference in the record. It is an established principle in our

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own experience and of the utility industry that the reliability of underground transmission and distribution is vastly superior to the reliability of overhead transmission and distribution. Within the city of Cleveland, because of the density of consumers and because of traffic conditions and congestion resulting, it is expedient that the transmission and distribution facilities be largely installed underground. The cost thereof is very materially greater than overhead construction, often being in the ratio of ten to one in the cost of underground as against overhead for corresponding facilities.

In order that service may be extended to sparsely settled communities and rural areas at any reasonable cost to the consumer at all, it becomes necessary that there be some sacrifice of service continuity and reliability through the use of over-head distribution and transmission facilities. Lacking these, the economics makes the rendering of service to those consumers at all prohibitive.

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Q. Now, I believe that you testified that the average outage of the system was of the order of 45 minutes in length. Is that figure constant throughout the system or, here again, is there a difference between the eastern section and Cleveland proper? A. There is such a difference. Within the city of Cleveland, or more properly within the area described on the map as Cleveland and suburbs, the average duration

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of outage suffered by this customer who experiences an outage of once in 19 years, that duration is 39 minutes, based on the experience of the Company as of the year 1938. 1508

In other portions of the system described as the three eastern counties of the system, the corresponding duration of outage which there is experienced once in eight months, is 47 minutes. The composite average for the entire system then made up of the section described as Cleveland and suburbs, and the three eastern counties, becomes a 44.85 minutes to which I have been referring as 45 minutes.

Q. When did you last experience a shut-down in your main transmission system? A. A complete shut-down at the main transmission system as it exists today has never occurred, yet in the period substantially before the system had reached its present state of development and size there was a complete curtailment of service due to shut-down of the main transmission system occasioned by the failure, electrical failure, in the Lake Shore switch house. 1509

This occurred more than 16 years ago, June 22, 1924, and resulted from a short circuit on a feeder bus in switch station "A" at the Lake Shore plant. This was, however, prior to the construction of the Avon and Ashtabula plants,



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prior to the completion of the interconnecting high voltage transmission system, and it may reasonably be concluded that under the present plan of design and operation as an

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interconnected system of several power plants, such a complete failure could not again occur.

Q. I suppose it is obvious that trouble occurring from time to time on portions of the transmission line do not cause interruptions of service. Is that a correct statement?

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A. Yes. Under the principles of design which I have described whereunder, for example, a continuity of service is not impaired in the event of the loss, for example, of one transmission line, one generator in a power plant, one boiler in a power plant, there may and there have occurred major interruptions of the service of units of equipment without there occurring corresponding loss in service to any customer.

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For example, in the last 16 years there have occurred 247 cases of trouble on the Company's circuits, which have been of such severity as to justify special reports and analyses by the electrical department of the company. Analysis of these reports indicates that more than half of these major losses of equipment have caused no interruptions to the transmission or distribution of power resulting in service outage to any consumers. The remainder of these interruptions have caused the outage of certain service areas.

Analysis of the statistics which I have recited in the duration of outage by cause, and analysis further recognizing the frequency with which such outage occurs per year, reveals that the average annual outage per customer from

causes over which the Company assumes responsibility, is

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8.54 minutes. That is, although the individual outages of service on the system have a duration of about 45 minutes, the frequency with which they occur is such that the average outage experienced per customer is but 8.54 minutes per year.

Here, again, the duration of such outage in the several parts of the system is not identical. In the portion of the area described as Cleveland and suburbs, the average duration of outage per customer per year is but 2.17 minutes. That is a customer in the area experiences an outage of but once in 19 years. The duration of such outage is 39 minutes, so that the average customer outage per year is but 2.1 minutes.

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In the territory described as the eastern three counties, however, where the frequency of outage is once in eight months, and where the duration of that outage is 47 minutes, the average outage experienced per customer per year becomes 73.94 minutes, or substantially 74 minutes. The make-up, or better perhaps the segregation of this outage into the time by causes, shows that within the Cleveland area described as Cleveland and suburbs, the aggregate outage of 2.17 minutes is caused by an outage of .14 minutes per year per customer due to the failure of the sub-station supply, itself. Of the total time 1.87 minutes is caused by failure of the feeder or the primary system between the sub-station and the consumer.

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The third-portion of the total outage is due to failure of

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the transformer, itself, and is responsible for .15 minutes of outage per year.

The fourth category, miscellaneous, is responsible for .01 minutes per year.

The corresponding figures for the three counties comprising the eastern portion of the system, reveal the effect I have described of the susceptibility of overhead transmission and distribution to outage caused by lightning and windstorm. For example, the average customer in this territory suffers  
 1517 an outage due to failure of the sub-station or its supply, which amounts to 15.59 minutes per year.

This is in large measure caused by storm damage to the 33,000 volt sub-transmission system supplying the sub-stations in the area.

The second cause of outage to such customers—the outage due to the distribution primary feeders—amounts to 58 minutes per customer per year.

The resulting transformer outage, a third class of failure, is .33 minutes per year, and the miscellaneous group .02.

This summarizes, then, the causes of consumer outage in  
 1518 the several portions of the system, and the relative effect of each of the several causes.

Q. I believe you spoke yesterday about an interruption to your 132 kv. line, due to the dynamiting of a tower. Have you had other instances of a similarly unusual nature involving the high line? A. Yes, we have had such. In

—830—

spite of the highest standards of design and construction, circumstances arise quite out of control of the Company against which it is virtually powerless to protect itself in insuring continuity of supply to its consumers.

For example, the high voltage transmission system, interconnecting the main power plants of the Company, had a major interruption of service at a point shown on the map as Northfield switching station designated by the symbol NF in the southern portion in the Cleveland and suburban area.

Q. This is Exhibit No. 21? A. Yes, Exhibit 21.

In 1928, when this line was a single tower two-circuit line, an airplane making a forced landing crashed into the two transmission lines at this point and severed both of the lower or "C"-phase wires.

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This, of course, interrupted service on the line and at the time, the Ashtabula plant was not yet built and substantially all of the eastern portion of the system depended on the flow of energy through either this 132,000 volt transmission system or a 33,000 volt connection at Sanborn Station designated SN in the vicinity of Ashtabula.

The outage occurred at 2:41 in the afternoon. Service was able to be restored fifteen minutes later at 2:56 by

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switching the load which had normally been carried on the 132 kv. system to the 33 kv. system through another path. The accident occurred on Sunday afternoon, when load conditions were light, although traffic conditions in the vicinity of the failure and the presence of a traction line and another 33,000 volt line belonging to the traction company, rather complicated the maintenance operation.

By emergency repairs making a single circuit out of the two circuits remaining by the use of certain of the "B"-phase wires as jumpers, service was temporarily restored on

1522

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the transmission system at 8:43 that night and normal service restored the next day.

Q. In that same area you now have a double steel tower four-circuit line? A. Yes, as a result of load growth in the area, as a result of the construction of the Ashtabula plant and the interconnection of the plants to a single system, those facilities have been increased from two circuits to four circuits.

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Q. What are the Company's standards of frequency control? A. I have mentioned that in addition to the continuity of supply, the quality of that supply is an important criterion as to the adequacy of service.

One of the characteristics which may be described as the quality of the electric current is the constancy of the fre-

—832—

quency. Maintenance of standard frequency is a desirable characteristic on a system such as this in order that the time control of electric clocks, for example, may be reasonably exact.

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If the frequency of the system which results from the generators operating at a higher than their standard speed, if that frequency is too high the clocks run too fast and gain time.

Similarly, if the frequency is too low, resulting from generators operating too slowly, the frequency is low and the clocks lose time.

In industrial plants, where precise speed control of motors is important, high frequency results in an excessive speed and correspondingly low frequency results in low speed. In certain textile operations such as the spinning of

rayon yarn, speed control becomes extremely important because fluctuations in frequency will result in variations in the diameter of the fiber or filament making up the rayon thread and correspondingly imperfect product.

Deviation of frequency from standard is measured by comparison between an electric clock operated from the system and a precision type of pendulum or other mechanical clock dissociated from the electrical system.

It is, of course, a characteristic of alternating current electric service that the frequency is absolutely the same

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throughout an entire interconnected system, or throughout any area in which a single frequency is imposed on the interconnected system.

Therefore, an instrument may be located at any point within the entire system to indicate the frequency at all points on the system.

The Company, in the main load dispatcher's central office, maintains precision instruments to indicate and record momentary deviations of frequency from standard and the accumulated or integrated deviation of frequency from standard. Under the standards of frequency adhered to by this Company, a frequency of sixty cycles is maintained with such precision that the normal allowable deviation of electric time from standard time does not exceed three seconds at any time.

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The control of this frequency, when the system is operating apart from interconnections with any other utilities, is obtained by control of the speed of the generating equipment. In the event the system is operating as it customarily does



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interconnected with the electric system of an adjoining utility, then the frequency of the Cleveland Electric Illuminating Company system is precisely the frequency of the entire interconnected system to which it is connected.

Q. What are your standards of voltage control? A. The other characteristics of the quality of electric service is the constancy of voltage, and here deviations at different points

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on the system are quite within the control of the Company in its design and operation.

The Company in the service of residential and small consumers supplied from an overhead or underground primary distribution system, employs two classes of feeders, so-called light feeders and so-called power feeders.

Light feeders are in general regulated as to voltage, particularly in urban areas, and the voltage is so maintained at the consumer's premises as to be within the standard deviation of plus or minus three volts from the design standard of 115.

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In the case of urban areas where distances traversed are greater and where other conditions make such close regulation not feasible, the voltage standard for light feeders is plus or minus five volts from the standard of 115.

In the service of power customers fed from the primary distribution system, there are two classes of power feeders—a first class of regulated power feeders, those which have in addition to power loads a substantial percentage of lighting load thereon. These in general are in urban areas, are regulated and have a frequency maintained thereon of plus or minus three volts from standard.

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There are in addition, certain other regulated power feeders in which the load is primarily power, which, if they were not regulated, would have a voltage deviation from standard which was excessive, and these have regulation

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within the limits of plus or minus five volts from a nominal standard of 115.

The manifestations of poor voltage on light feeders are dimming of lights or lack of constant lighting intensity, and in the case of certain appliances such as the electric range, inadequate voltage or low voltage results in unsatisfactory performance in the form of slow operation or slow cooking.

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Q. How is the voltage control maintained? A. This close maintenance of voltage control on the primary distribution of the system is largely obtained through the use of so-called induction regulators at the sub-stations, which insure through the necessary wiring circuits and other control relays and equipment, that the voltage at the consumer's premises will be able to be maintained within the limits of design established.

These, in the case of lighting feeders, are single-phase regulators, but in the case of power feeders are three-phase regulators.

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There is, likewise, some voltage control realized through regulation of voltages at power plants, but in general this is an operating expediency of the Company and does not result in control of voltage at the consumer to the extent that sub-station feeder regulators do result in such voltage.

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In those cases in which the Company seeks to check the effectiveness of the means employed for regulation of volt-

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age, graphic or curve drawing voltmeters are installed on consumer's premises for a sufficient time to experience all of the conditions of load and based on the records revealed by such charts or curves drawn, conclusions may be reached as to the adequacy of the Company's facilities for maintaining the standards of service desired.

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Q. Is it your experience that the public is prepared and does assist you in locating causes of trouble? A. Yes, the standards of service, to which I have testified, are in substantial measure made possible only by the prompt and willing cooperation on the part of the consumers to report cases of trouble and otherwise to assist the Company in locating trouble.

As I have mentioned in my previous testimony, the number of calls received from customers is very substantial, requiring, in times of major system trouble, very substantial telephone facilities.

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For example, in the Company's private telephone exchange, there are forty-seven incoming trunk lines handling more than two million telephone calls per year. Special lines are assigned and provide for the use of employees when reporting accidents involving personal injury or for other emergency communications.

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The Company operates a teletype system, for example, between the main office in Cleveland and branch offices in certain of the cities in the eastern portion of the territory, for example, referring to Exhibit Number 21, to Mentor, Geneva, Ashtabula and Conneaut.

Q. How long does it take one of your trouble crews to clear a reported case of trouble? A. Nine out of ten calls

received by the Company reporting service outage on the part of a customer, are calls which grow out of causes over which the Company has no control. That is, they are customer-caused outage. The other ten per cent. of the calls are company-caused outage, or outage over which at least the Company has responsibility, and it is this latter class to which I have testified as to the frequency and duration.

The 90 per cent. of the calls then reporting no service arising out of trouble on consumer's premises, are handled by the Company and the service restored in an average time of twenty-five minutes.

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The number of such calls is about one hundred thousand per year, so that the average customer suffers an outage from causes over which he supposedly has control at the rate of about once each three years, the duration of which outage is about twenty-five minutes, or the average outage per cus-

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tomers from his own causes is about eight minutes per year.

Q. So that your control crew, your trouble crew, clears the difficulty on the average in twenty-five minutes in those instances? A. That is correct.

1539

Q. Now, you spoke of the major difficulties in operation of transmission and distribution lines which are overhead. Do similar difficulties arise in the operation of the underground system? A. Yes, there are difficulties similar in character and in some cases similar in severity, but fortunately not with the same frequency.

For example, in the direct current, underground system supplying downtown Cleveland, fire occurred due to a short circuit in certain direct current feeders near the Bolivar

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Road Sub-station in 1931, which spread for three city blocks before it could be brought under control.

This point is right at the center of Cleveland, in the vicinity of the sub-station whose symbol is BV. A feeder went out of service early in the morning before 6:00 o'clock when a comparatively small number of men were on duty as a result of a short circuit.

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Soon thereafter, the trouble spread and became one of major intensity and as soon as men could be called from home, one hundred maintenance men were dispatched to the job, about half of whom were working on cables and about

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half of whom were required in the manholes.

Three manhole covers were blown off by the explosion following the fire. Two more were required to be removed because of smoke conditions.

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The Cleveland fire department used and recharged a chemical wagon three times in an effort to extinguish the fire. The Company used its own fire-fighting equipment and water-lines were finally turned into the manholes.

The problem was then to clear the resulting damage which had resulted from the fusing of these cables from the very intensive short circuits. These had to be removed in solid blocks of fused copper, cut with acetylene torches. Temporary facilities were required to be laid on the surface of the ground by-passing the damaged sections to temporarily relieve the situation, and it was several days later before final restoration of the equipment in its normal condition was accomplished by pulling new cables through the ducts.

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More than eight thousand feet of 1,000,000 circular mil cable were required to be replaced, and it was by virtue of a solidly interconnected network or grid system in the underground areas for the direct current distribution that service continuity was able to be maintained at a reasonable level and the inconvenience from the disturbance minimized.

Q. You have spoken of periodic meter testing as one

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instance of maintaining reliability of service. Are the meters retained on customer's premises at all times, even when the premises are unoccupied? A. Except under unusual circumstances, yes. In certain areas of the city property in vacant premises is not very well able to be protected and in certain of those extreme cases meters are required to be removed because they are stolen from vacant premises.

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Fortunately, those areas are small, however, and in the aggregate for residential consumers the distribution meters are left on the premises so that the owner may, in the event the premises are to be rented, use lights at night in showing the property to prospective tenants.

In commercial installations, meters are habitually removed on the moving of the tenant.

1545

Q. In addition to the line patrol services and trouble repair services as to which you have testified, are there other precautions which are taken by the Company to insure continuity and reliability of service? A. Yes, to summarize all of these precautions required to insure dependable supply, in addition to those that I have mentioned, there are installed operating procedures designed to quickly detect any electrical disturbances which may affect service, prompt



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means employed to dispatch equipment and men to the scene of disturbances, to investigate outages or interrup-

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tions, to do the things which I have described as being required to promptly restore normal service, provide in the design of the system facilities to transfer load and transfer supply lines from one source to another, and in addition, to make convenient and readily available to the consumer what information he requires in billing, in service application

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needs and the other manifestations of adequate service to which we feel he is entitled and which he, himself, requests.

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Q. Will you explain the Company's record as to system loss? A. It is a characteristic of electrical circuits, of course, that energy is not transported at 100 per cent efficiency. That is, there is loss. System efficiency may be defined as the ratio between the energy distributed to the ultimate consumers divided by the energy output from the generating plants.

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The difference in the amount of such energy delivered from the system and supplied to the system is largely electrical losses. Correction must be made for the amount which has been used by the Company in its own operations and this is usually taken into account.

The percentage of such losses is a guide to designers and in less measure to the operators of the system in determining the effectiveness with which the system has been designed and built and with which it is operated.

Q. Specifically, what is your record on system losses?

A. As of 1939, the percentage loss on the Cleveland Electric Illuminating Company system was 11.67 per cent, and over the last nineteen years—the period 1921 to 1939, inclusive—

this loss has averaged almost exactly that figure or  $11\frac{3}{4}$  per cent.

A maximum loss, percentagewise, occurred in 1935 when the percentage of loss rose to 12.65 per cent., and the mini-

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mum loss percentagewise occurred in 1927 when the percentage of loss was 10.98.

The high loss of 12.65 per cent. in 1935 resulted not so much from the losses having increased on the system per se, but rather that the output from the system had so been reduced by business conditions as to make the ratio between the losses and the total input or output high.

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Q. So that during this entire period, despite a substantial increase in territory served, the percentage loss has remained fairly constant, is that correct? A. Yes, it has. The effects are in some measure compensating. That is, as the territory served has increased, and the number of lines and transformers which might cause loss have increased, the volume of business has similarly increased, and the relationship between the loss and the total input to the system has remained substantially constant.

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Q. Where did the major portion of losses occur—in what phase of the system operation? A. The losses on the system may be classified as occurring in the transmission system, which losses are in the transformers and the lines associated with the hundred and thirty-two and sixty-six thousand volt transmission system, also in the thirty-three and eleven thousand volt lines supplying distribution sub-stations.

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The second class of loss is the conversion loss which occurs in motor generator sets or rotary converters and associated equipment at direct current distribution sub-stations.

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A third class of loss is the transformation loss which occurs at step-down transformer banks at distribution substations for alternating current output; and a fourth category is that of distribution loss which occurs in the distribution lines, regulators, transformers, serving the distribution system from the sub-station to the consumer.

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Q. And in what phases among those you mentioned are the losses heaviest? A. The major portion of the over-all system loss occurs in the main transmission system, where, as of 1939, 4.37 per cent. of all the output of the power plants of the company was absorbed as transmission loss.

Related, however, to the amount of energy put into a particular branch of the Company's system, the conversion loss at direct current sub-stations is percentagewise the greatest.

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Q. That loss is experienced in the conversion of alternating current to direct current, is that right? A. That is right, and last year such loss reached 9.73 per cent. Because, however, relatively a small amount of the company's total energy is converted to direct current, the percentage of the total over-all system input which was loss in conversion, was but .87 per cent. Transformation loss was .93 per cent., and the

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distribution loss from all causes, 5.50 per cent.

Q. What has the Company's record been in reduction of electric operating expense? A. In the history of the operations of the Company, the trend in electric operating expense per kilowatt hour sold has been steadily downward, culminating in a value reached in 1939 of less than seven mills—

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Mr. Buswell: I didn't hear the last part of that. Would you read that answer again?

Mr. Hamilton: Read it back, please.

(Whereupon the answer above recorded was read by the reporter.)

The Witness: (Continuing)—per kilowatt hour.

Mr. Buswell: Thank you.

The Witness: That was lower than for any year in the Company's history.

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Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 24 for identification?

The Examiner: Yes.

(The document referred to was marked for identification as Respondents' Exhibit No. 24.)

*By Mr. Hamilton:*

Q. Will you explain, Mr. Lindseth, what Respondents' Exhibit No. 24 for identification portrays? A. This curve

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sheet, in the curve at the top, shows the electric revenue received by the Company per kilowatt hour sold as an overall average for all energy. In the curve below it, the solid line, there is shown the trend in total electric operating expenses per kilowatt hour sold, over the same period from 1921 to 1939.

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Total electric operating expenses include all expenses for production—

Q. (Interposing) If you will, just identify the other two lines. A. Very good. The next curve shown as a dash line, bearing the legend "other electric operating expenses per

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kilowatt hour sold" and the fourth curve—the dotted curve at the bottom of the sheet—shows the electric production expense per kilowatt hour sold.

Q. This chart or diagram has been prepared under your supervision? A. Yes, it has.

Q. The facts shown are taken from the records of the company? A. Yes, they are. From the statistical department records.

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Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 24.

Mr. Buswell: No objection.

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The Examiner: It is admitted in evidence under the number mentioned.

(The document referred to was received in evidence as Respondents' Exhibit No. 24.)

*By Mr. Hamilton:*

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Q. Now, Mr. Lindseth, the second curve on the map which you have referred to—on the diagram, rather—is stated to be total electric operating expenses before deferred up-keep and taxes, is that correct? A. As the caption, the curve sheet specifically limits the data, the electric operating expenses are before deferred up-keep and taxes.

Q. And that curve to which I have referred is the composite, is it not, of the two curves shown immediately below it? A. Yes. It is the arithmetic sum of each of the two components of total cost, the lower one being the production expense at the powerhouses for the generation of the energy; the second curve "other expense" being all other expense incurred by the Company in distribution, transmission, main-

tenance, commercial expense, administrative expense, and other similar elements.

Q. And there are similarly excluded from other electric operating expenses; as shown, and electric production expense as shown, items of deferred up-keep and taxes for the

—848—

period? A. They are excluded. Reference to these curves will show that the long-time trend in the expense for electric production, the dotted curve near the bottom of the sheet, has shown a marked decline from 1921 to 1939. The value of production expense in 1921 was 7.3 mills per kilowatt hour. The corresponding figure in 1939 was 2.6 mills per kilowatt hour. The lowest value experienced, however, during this nineteen year period was reached in 1933, when the production expense reached a low of 2.6 mills which was the lowest cost at which energy has ever been produced on a yearly average basis in the history of the Company.

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This was realized as a result of quite low cost of coal, during which year the average cost of coal for electric and steam-heating was \$2.41 per ton. The corresponding cost in 1939 of fuel was \$3.06 per ton.

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Q. In general, what items enter into the determination of electric production expense? A. Electric production expense, which is the cost of operation at the power-houses of the Company, includes as the major element the cost of fuel, itself. Added to the fuel expense, there is, however, the labor of attendance at power plants, the maintenance of power plants, supervision of power plants, the handling of coal and the unloading thereof, the services of watchmen and electrical operators at the power plants.

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Q. And in general, what are the components entering into a determination of other electric operating expenses as shown on the chart? A. Other electric operating expense includes all other elements of the Company's expense and includes the transmission line operation and maintenance, sub-station operation and maintenance, the distribution system operation and maintenance, utilization equipment, largely street lighting, operation and maintenance, and a minor element of undistributed expense.

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To these specific expense items there are added the administrative expense, commercial and business promotion expense, injuries and damages to workmen and certain undistributed expense, injuries and damages to workmen and certain undistributed expenses such as insurance, uncollectable accounts, the cost of public regulation as charges to the Public Utilities Commission, and these, in the aggregate are electric operating expenses exclusive of production.

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The Examiner: Referring to this chart, Respondents' Exhibit 24, as to electric production expense by 1939, wasn't that as low as it was in 1933? These lines seem to indicate that.

The Witness: Within the ability to portray the facts on the chart, that observation is correct. Each of the charges was 2.6 mills per kilowatt hour, but in one case it was 2.63 mills, and in the other case 2.56

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mills, so it is a hairline difference.

The Examiner: I wanted to get the figures on it.

The Witness: Yes.

*By Mr. Hamilton:*

Q. In which case was it lower? A. In 1933, the production expense reached the all-time low value of 2.56 mills per kilowatt hour. The corresponding figure in 1939 was 2.63 mills.

Q. Has the reduction in production expense over the period shown been due in part to obtaining a higher efficiency from fuel? A. In substantial measure the reduction in production expense has resulted from an improvement in fuel economy or in fuel consumption per kilowatt hour sold. Over the period from 1921 to 1939, there has been a marked reduction in the price of coal per ton. The value or the cost per ton of coal in 1921 was \$4.77, an effect of the post-war inflation of prices which had reached a maximum in 1920, during which coal costs had risen to \$5.77 average.

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By 1923, the price of coal had already declined to less than \$4.00, and by 1928, had declined to \$3.08 per ton which was substantially the cost experienced in 1939 when the average price was \$3.06.

It may then be said that the effect, as between 1921 and

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1928, was made up not only of an improvement in fuel economy per kilowatt hour, but likewise resulted from a reduction in the price of coal per ton, but since 1928, the over-all reduction in the eleven year period, as between 3.3 mills in 1928 and 2.6 mills in 1939, this reduction has resulted entirely from improvement in the economy of operation of the system.

The over-all pattern here has been one of long-range downward trend in total operating expenses per kilowatt

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hour. However, marginal economics enters the picture here, and the opportunities for further reduction in production expense are limited by marginal opportunities to reduce the fuel required per kilowatt hour, and it is noted that the long-range trend in other operating expense per kilowatt hour is—with the exception of a high point during the depression, when the output was low—substantially a horizontal trend at about four mills per kilowatt hour.

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This item of total expense, other operating expense per kilowatt hour sold, reached a value of 3.96 mills per kilowatt hour in 1939, which was the lowest value experienced during the period 1921 to 1939, although it was equalled in 1925 when the value was the same—3.96 mills.

The aggregate of the two, however, which makes up total electric operating expenses per kilowatt hour, is at all time low as of 1939, having reached 6.9 mills. This was the

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first year in the history of the operation of the company, when the total operating expense per kilowatt hour sold had dropped below seven mills.

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Q. What was the figure on—the precise figure—on electric revenue per k. w. h. for 1939? A. The electric revenue per kilowatt hour sold in 1939 was 1.768 cents per kilowatt hour. This is identical with the average revenue per kilowatt hour experienced in 1936. Within the period covered by the curve, namely from 1921 to 1939, the trend in average revenue in the long range has been downward. It was interrupted during the period of the depression in the early thirties, by virtue of the fact that industrial consumers, by using less of energy in relation to the whole, had the effect of showing an apparent increase in over-all figures, even though certain

classes of business, such as residential, showed a continuous and unbroken decline.

During periods of low industrial activity, when the percentage of the total output of the company, which goes to low revenue customers, is reduced, then the weighted average revenue per kilowatt hour goes up.

Similarly in 1938, when industrial activity was substantially curtailed in the Cleveland district, the electric revenue per kilowatt hour sold shows an increase because of the decreased influence of the large industrial users.

1574

Q. How many pounds of coal is required to produce a  
—853—

kilowatt hour of energy in your own system? A. As of 1920, the fuel economy of the system, when measured in terms of B. t. u. per kilowatt hour generated, was at the rate of 28,000 B. t. u. per kilowatt hour. Since that time there has been a steady and substantially unbroken decline to a value of 14,700 as of 1939, and the corresponding quantities of coal required per kilowatt hour were about two and one quarter pounds of coal per kilowatt hour—the early point, 1920—as compared with one and one-fifth pounds of coal per kilowatt hour as of 1939.

1575

Q. Actually, the significant factor is the B. t. u. rather than the pounds of coal, is it not? A. Yes; for more precise measurement of performance, the B. t. u. per kilowatt hour is to be preferred because the heat content of coal fluctuates over wide limits and the unit is not as precise when expressed in pounds of coal per kilowatt hour.

Q. Turning now to the Company's promotional policies, would you state the functions of your sales program?

1576

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Mr. Binford: Mr. Examiner, I don't believe the witness has been qualified except as a technical advisor to the president, nor has he stated that he has any familiarity with the sales activities of the Company. If such question is asked, I object to the question.

Mr. Hamilton: I think, Mr. Examiner, if you will refer to the transcript, you will find that his qualifi-

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1577

cations cover this aspect.

Mr. Binford: If he can state now that he is familiar with those activities from his own knowledge, I withdraw the objection.

(Discussion off the record.)

The Examiner: I understand counsel for the Commission has withdrawn his objection and you may proceed, Mr. Hamilton.

Mr. Hamilton: Would you read back the pending question?

1578

(Whereupon, the pending question was read by the reporter.)

The Witness: The sales program of the company has essentially two functions:

One, the promotion or building of load, increase of consumption among consumers; second, the furnishing of sales service to consumers in the matter of adequate information on opportunities for the use of electric service and other similar information.

By Mr. Hamilton:

Q. You merchandise appliances yourself? A. No, the company does no merchandising of appliances. Never in the history of the company has the company, itself, in its promotional program, accomplished these ends by the actual selling of equipment, appliances or apparatus to its consumers.

Throughout this history, it has accomplished its ends in increasing the distribution of load-consuming devices, appliances, lighting equipment, and other facilities for the use of current, through cooperation with dealers, distributors, manufacturers, retailers, and other outlets.

This program has been followed by the Company with the distinct feeling that by such energetic cooperation and fostering of sale by others, the ends may be effectively achieved. The company has thus obviated competition between itself and its customers, there referring to its customers as retailers and sellers of electrical appliances, who are engaged in other branches of the electrical industry, and the company has enlisted the cooperation of hundreds of concerns in the electrical trade, bringing together their resources for the cooperative promotion of electrical appliances, domestic, commercial, industrial, institutional, and all other classes.

Q. Now, is one of the objectives in the sales program to assist the consumer in obtaining the greatest possible value from the electrical service? A. This is one of the functions of the service phases of the company's sales program. For example, without adequate education of the consumer of the opportunities afforded to use electricity and the numerous



1582

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labor-saving electrical appliances and devices, the maximum opportunities for promotion are not realized.

Electrical education then constitutes an important part

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of the company's sales service functions. It calls for highly specialized services in certain cases, such as in industrial activities where the services of highly skilled technicians may be required in matters of electric furnaces or heat-treating, specialized motor applications.

1583

It requires the services of lighting specialists, illumination engineers, in providing proper lighting in school rooms, offices and the like. It calls for assistance to residential consumers in educating them in matters of home lighting, home economics, domestic cooking and similar efforts. These service activities are offered by the company to the consumers without charge, and the company regards provision of such services as a fundamental and essential part of the complete electric utility service to the consumers.

1584

As a result of a rather long history of such sales service to consumers, they have come to expect such sales service as a natural component of the utility service which the company provides, and they have come to expect it as a natural component of the service of the company.

Architects, engineers, business men, in the planning and purchasing of electrical equipment, frequently call on the company for service of this character, and such service is freely rendered by the company. The high degree of electrical development in the territory exists, we think, in substantial measure as a result of such service provided by the company, and the confidence resulting therefrom on the part of

—857—

the consumers.

Q. How extensive in size and scope is your sales program? A. The sales program last year—and it was not an extraordinary year—required \$735,000.00 of expense. There were 165 men in the program in the sales department. All divisions of the company's promotional efforts were represented, and this effort is the sales department alone without the corresponding expenditures and personnel required in the advertising department.

The sales department comprises a number of specialized divisions and operators, the company's vice president in charge of sales. The advertising activities of the company are under an assistant to the president, who is in charge of advertising and product of publicity and his staff is independent from the staff of the sales department although working very closely with it.

1586

Under the vice president in charge of sales there is a power division with a supervisor and fifteen employees; a retail commercial division, embracing a supervisor and twenty-three employees; a residential division, made up of four branches with seven supervisors acting under a director of residential sales, and with a personnel of sixty-nine employees under these supervisors.

1587

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Other divisions of the Company are the street lighting division with a supervisor and two employees, a research promotion division, a supervisor and three employees, an office division and a separate division operating in the three counties shown at the eastern portion of the system in Exhibit 21 under a supervisor with fourteen employees.

In addition to these, there is a substantial personnel at the Electrical League, which is a cooperative effort of the

1588

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company and which I will describe in some detail later, the staff of which consists of the President of the League and twelve other employees.

Q. What proportion of the efforts or expense of the sales program is devoted to residential consumers? A. Of the divisions which I have described as the residential division, comprising merchandise promotion, home service, home lighting, and the Electric Home Bureau, these under the director of residential sales, are responsible for the expenditure of about 70 per cent. of the total sales expense, and this domestic sales division and the sales promotion division are the largest of the divisions in the Company's sales program.

1589

The residential sales program of the Company must, in large part, bear the burden of pioneering electrical appliances. Merchants, by and large, are neither willing nor in the usual case are they economically able to pioneer the sale

—859—

of load-building devices.

1590

In the early stages of development of markets, even for appliances which are usually thought of as highly necessary to modern convenience in the home, the Company has had to bear the burden of that early promotion.

For example, fifteen years ago, when the electrical refrigerator in the home was not at all an accepted appliance, it devolved upon the Company to do the advertising, encourage the dealers and distributors to offer the appliance, display it on their floors, and to train salesmen who might get the sales story across to the ultimate consumers.

Similarly, in recent years, the electric range, before it became an accepted product and in demand by the public, had to rely for its promotion on the efforts of the Company,

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1591

so in the early stages of virtually all load building appliances, the Company bears the burden of the promotion.

Q. What were the first steps in this program of sales promotion? A. Are you speaking now of residential promotion?

Q. Residential. A. The early efforts of the Company in residential sales promotion centered almost exclusively around lighting. In the period from 1910 to 1921—a period in which the number of customers of the Company was growing very rapidly—and during that period the number of customers increased from 30,000 to 180,000—an increase of six

1592

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times. Those customers were acquired largely as a result of effort on the part of the Company to encourage the wiring of homes formerly lighted by gas, to encourage the adequate wiring of new houses, but in very substantial measure the substitution of electric lighting fixtures for gas lighting fixtures, appliances were almost non-existent prior to 1921, although there were a few electrical merchandise stores and electrical contractors who offered washing machines, vacuum cleaners, both of which began to appear about 1915, and the electric iron.

1593

The early efforts then were, substantially all of them, efforts to sell the idea of electric lighting. By 1921, a survey of results showed that the average six-room house had but twenty-one outlets therein. These outlets were, virtually all of them for lighting, consisted mostly of ceiling and wall fixtures with only possibly a single base plug outlet in the living room for a decorative lamp.

1594

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Light, as a tool for seeing, hadn't yet been developed at all. During the next period, however, from 1921 to 1933, very special attention was given by the Company to educate the public in the requirements of adequate light and the effort was largely devoted to the encouragement of increasing the number of lighting outlets in the home.

During this period electrical homes were opened for exhibition in the city, and three such homes were opened in

—861—

1595

1921, but in the next two years, sixty-six additional homes were opened to the public.

This effort has continued during the past twenty years, to serve to educate the public in the adequacy of lighting and the opportunities for lighting as an instrumentality to seeing. The greatest increase resulting from this effort in the number of outlets in new homes took place just prior to 1923, when the increase over the 1921 level had been more than 200 per cent. and the recent statistics indicate an average number of outlets per home of sixty-four.

1596

During this period, many hundreds of such electrical homes have been exhibited and in these homes not only has lighting been promoted, but appliances as well.

The Examiner: Let us recess at this point until 2:00 o'clock.

(Whereupon, at 12:30 o'clock p. m., the hearing was recessed until 2:00 o'clock p. m. the same day.)

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AFTERNOON SESSION

The Examiner: You may proceed, gentlemen.

Whereupon, ELMER L. LINDSETH resumed the stand and testified further as follows:

*Direct Examination by Mr. Hamilton (Continued):*

Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 25 for identification?

1598

The Examiner: All right, let it be so marked.

(Exhibit 25 for identification on behalf of Respondent, marked.)

*By Mr. Hamilton:*

Q. Will you explain what Respondents' Exhibit 25 for identification portrays? A. This exhibits shows for the Cleveland Electric Illuminating Company the residential revenue per kilowatt hour sold from 1905 to 1939, inclusive, and the average annual use per residential consumer in kilowatt hours per year from 1910 to 1939, inclusive.

1599

Q. This chart was prepared under your supervision? A. Yes, it was.

Q. The facts shown are taken from the records of the Company? A. Yes, from the statistical department records.

Mr. Hamilton: I offer it in evidence as Exhibit 25.

Mr. Binford: No objection.

—863—

The Examiner: All right. It is received under the number assigned it.



1600

*Elmer L. Lindseth—By Respondents—Direct*

(Respondents' Exhibit 25 for identification received in evidence and so marked.)

Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 26?

The Examiner: That may be done.

(Respondents' Exhibit 26 marked for identification.)

1601

*By Mr. Hamilton:*

Q. Will you explain what Respondents' Exhibit 26 for identification portrays? A. This chart shows the revenue received from general commercial customers per kilowatt hour sold for the period from 1912 to 1939, inclusive, and the average annual use per general commercial consumer expressed in kilowatt hours per year for the period 1916 to 1939, inclusive.

Q. This chart similarly has been prepared under your supervision? A. Yes, it has.

1602 Q. The facts shown are taken from the records of the Company? A. Yes, from the statistical department records.

Mr. Hamilton: I offer it in evidence as Respondent's Exhibit No. 26.

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Mr. Binford: No objection.

The Examiner: It is so admitted in evidence under that number.

(Respondents' Exhibit 26 for identification, received in evidence.)

Mr. Hamilton: May this be marked as Respondents' Exhibit No. 27 for identification?

*Elmer L. Lindseth—By Respondents—Direct*

1603

The Examiner: It may be so marked.

(Respondents' Exhibit 27 marked for identification.)

*By Mr. Hamilton:*

Q. Mr. Lindseth, will you explain what this exhibit portrays? A. This chart shows the large commercial and industrial revenue of the Company per kilowatt hour sold for the period 1914 to 1939 inclusive, and the average annual use per consumer for the large commercial and industrial classes from 1916 to 1939, inclusive.

1604

Q. This exhibit similarly has been prepared under your supervision? A. Yes, it has.

Q. And the facts shown have been taken from the records of the company? A. Yes, from the statistical department records.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 27.

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1605

Mr. Binford: Mr. Examiner, I believe the expression "large commercial and industrial revenue" should be explained or the chart is unintelligible.

Mr. Hamilton: Will you at this time, Mr. Lindseth, explain the difference in classification between the general commercial revenue shown on Exhibit 26 and large commercial shown on Exhibit 27?

The Witness: Under the definitions prescribed in the Company's rules for rate classifications, general commercial customers and those customers who are

1606

*Colloquy*

billed under the general commercial rate schedules are commercial customers whose demand is less than 20 kilowatts of demand. Large commercial customers are those whose business and needs might be similar to those of a general commercial customer but whose demands exceed 20 kilowatts demand, for which conditions of service there is a different rate schedule available.

1607

Industrial customers differ from larger commercial customers only in respect to size and customers consuming alternating current in excess of 500,000 kilowatt hours per month and meeting certain other requirements of the company's rate schedules having to do with the resale of energy, are classified as industrial customers.

The class of large commercial and industrial then are in accordance with the Company's filed rate schedules as a specific group of customers whose demands exceed 20 kilowatts.

1608

—866—

Mr. Binford: These terms as used in the captions of the two documents last offered are used in the sense in which you have just described them?

The Witness: They are.

Mr. Binford: No objection.

Mr. Hamilton: I had offered this exhibit as No. 27.

The Examiner: All right. This last chart which has been marked for identification is now received in evidence as Respondents' Exhibit No. 27.

*Elmer L. Lindseth—By Respondents—Direct*

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(The chart marked Respondents' Exhibit 27 for identification, received in evidence.)

Mr. Hamilton: May this document be marked as Respondents' Exhibit No. 28 for identification?

The Examiner: Yes.

(Respondent's Exhibit No. 28 marked for identification.)

*By Mr. Hamilton:*

1610

Q. Will you explain what Respondents' Exhibit No. 28 portrays? A. This shows for the Cleveland Electric Illuminating Company the history of residential electric rates for consumers using 20, 50 and 100 kilowatt hours per month for the period from 1900 to 1940, including a rate reduction made effective on July 7, 1940.

Q. I will ask you later to explain certain features of this

—867—

chart. For the moment will you state whether this chart has been prepared under your supervision? A. Yes, it has. 1611

Q. And the fact shown are taken from the records of the Company? A. They are.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 28.

The Examiner: Let it come in as Respondents' Exhibit No. 28.

(Respondents' Exhibit 28 for identification received in evidence.)

1612

*Elmer L. Lindseth—By Respondents—Direct**By Mr. Hamilton:*

Q. I will ask you later, Mr. Lindseth, to refer to the specific exhibits for certain information.

1613

Prior to the taking of the recess you were engaged in describing the promotional activities and sales activities of the Company. Could you now state whether there are any other functions of sales promotion other than those you have already described? A. In addition to those which I described as sales service and sales promotion, there is the distinct requirement of the Company's sales promotion policy that it be directed at holding load already obtained or acquired as well as the building of that and new load. The business of the Company is not without competition from gas, from oil and other industries. For example, the gas refrigerator

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1614

is a mechanical refrigerator with which the electric refrigerator must compete. In the replacement of appliances a competitive market exists and it is to insure the continued electric serving of these customers that an important phase of the company's efforts is directed.

Similarly in commercial and industrial activity there is competitive with the electric furnishing of power that made available through oil engines, for example, and the steam turbine and although load may at the moment be served by the Company, there is the hazard of the loss of that load to competitive power sources, the protection against which is the job of the sales department.

The electric utility business is essentially one of slow turnover, that is there is required a substantial investment when related to the annual gross revenue. For the year

1939, for example, the relationship between the Company's fixed assets and the gross revenue was \$4.88 of fixed assets per dollar of gross revenue. For the last five years this ratio has averaged about five. That is, \$1.00 invested in the business requires five years of business to be recovered in gross revenue alone.

Such circumstances make it especially important that once load is acquired and the investment made to serve that load, that the load be retained. This requires insuring the complete satisfaction of the customer in regard to durability, dependability, economy and general satisfaction.

1616

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Q. Is there a so-called Electrical League in Cleveland?

A. Because the Company does not and has not merchandised appliances, it has operated through an organization known as the Electrical League of Cleveland which is a cooperative venture between the Company, the dealers, and the distributors of electrical merchandise in the community.

Q. Will you describe further the functions of the Electrical League? A. The League is a corporation not for profit, incorporated in 1909, and has for its objects, among others, the improvement in the electrical business for the benefit of the citizens of Cleveland.

1617

During the early part of its history its function was largely social among dealers, dealer representatives, distributors, salesmen and others concerned with the distribution of electrical appliances, but there soon developed a definite need for cooperative business efforts, the training of salesmen to better represent their principles in the moving of merchandise and the League expanded its efforts some ten



1618

*Elmer L. Lindseth—By Respondents—Direct*

years after its inauguration in the development of this Cleveland market.

Q. Had you told us how the League is constituted? A. The League membership is made up from dealers, from jobbers, from manufacturers, from representatives of the Cleveland Electric Illuminating Company, and from any others interested in the merchandising and promotion of electrical merchandise and electrical appliances.

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1619

The number of members participating is 322 as of 1940, who have contributed to the League's general fund for promotion and development of the electrical merchandise market. The development which started, and which I mentioned, some ten years after the formation of the League, namely about 1920, proposed to enlarge the possible market for electrical merchandise and to enlighten the public on the subject of electricity.

1620

Following this announced policy in 1920, the size of the League grew rapidly and the number of supporting companies, dealers and others, increased from 132 in 1921 to 185 by 1923, and to the figure I have mentioned, 322, as of the present time. A substantial or the major portion of the League's funds have been used to promote the sale of equipment for the use of electricity in the home, that is residential appliance merchandising, but the League program has also included the promotion of the commercial and industrial uses of energy through the necessary merchandising or commercial and industrial equipment.

Q. Are there other activities which it sponsors? A. Yes, an important additional activity which the Electrical League

sponsors in connection with the industrial and the commercial phases of its activity is the Electrical Maintenance Engineers' Association of Cleveland. This is an organization of engineers employed by the industrials in the community who are users of electricity and the association has for its object to encourage the development and economical

—871—

application and use of electrical equipment in industry. The group has monthly educational meetings which include inspection trips to manufacturing plants and has a membership of about 750 representatives. 1622

Q. And does this League have a publication of its own?

A. The organization I have just described, this Maintenance Engineers' group, is informed, as are the executives of the industrial plants, through the Electrical Production Magazine which has been in circulation since 1927 and has a circulation of about 3,300 per month, the object of which is to inform executives in commercial and industrial enterprises as to the uses of electricity in industry and similar promotional efforts.

Q. It serves a merchandising function then? A. Yes, it does serve a merchandising function to the extent that it calls to the attention of these commercial and industrial consumers available equipment for the use of electric energy, but it serves a broader function of serving to educate those persons as to economical methods to use existing equipment, new methods by which existing equipment may be used to better advantage, and in general a broad promotional program among industrial consumers. 1623

Q. Do you feel that the activities of the League have been beneficial in promoting increased electrical use? A. Yes.

1624

*Elmer L. Lindseth—By Respondents—Direct*

As may be seen from Exhibit 22, containing certain system growth statistics of the Company, there has been in the

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period from 1910 to 1940 a very striking growth in the Company. The kilowatt hours of output have increased, for example, from some 80,000,000 hours per year in 1910, to 1,800,000,000 by 1939. Such growth is due, of course, to many causes. However, it is felt that important among these causes is the promotional effort given by the Company through the Electrical League and other activities to the increased use of electric energy.

1625

Q. Does the League sponsor exhibits of various sorts?

A. Yes, the League has in the past to a greater extent than recently, met the needs of the community when inadequate displays of appliances were available, by having a so-called exhibit of everything electrical to the home, which was a centralized exhibit in the quarters owned by the Electrical League, or leased by them, in which were displayed appliances and other electrical merchandise on a cooperative basis by all manufacturers and all dealers and distributors. No merchandise was sold but here was available a centralized showroom in which a prospective purchaser might examine all the available makes of equipment.

1626

By 1935 or thereabouts, electrical merchandising had assumed so important a place in the community that the department stores and certain of the major appliance dealers had actually more appliance display space available to the public than did the Electrical League, and since the Electrical League had thus served its purpose of pioneering the display of equipment and putting it on so substantial a basis

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1627

that it could be taken over by the dealers, that the League

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discontinued its display of merchandise.

Q. Does the Company actually sell appliances, itself?

A. No, the Company does not and has not sold appliances.

Q. You merely assist in the sponsorship of this cooperative enterprise, is that right? A. Yes. It still is a distinct obligation of the Company to teach merchandise salesmen how to sell and dealers how to sell and promote their products.

1628

The big weakness in the distribution of electrical merchandise in the territory of the Company is not the lack of excellent products, neither is it the lack of available service at good rates, but the problem is a problem of inadequate selling. The average appliance salesman is not a good salesman and one of the definite tasks of the Company operating as itself and through the League, is the training of salesmen for these dealers.

Q. You do have a sales division, do you not, in your operating personnel? A. Yes, the efforts which I have described in connection with encouraging the better selling of appliances, is carried on through a merchandise promotion division of the residential division of the sales department. This merchandise promotion division is of a supervisor with about 12 assistants who are charged with the responsibility of assisting dealers in the attractive display of merchandise, in the training of dealer salesmen, in the running of cam-

1629

—874—

paigns among dealer salesmen to encourage improved results, the stimulating of cooperative advertising by such dealers.

1630

*Elmer L. Lindseth—By Respondents—Direct*

and in general to encourage the better selling on the part of the dealers who merchandise the appliances in the district.

- Q. Do you have advisers on home lighting to contact customer outlets and carry on educational programs? A. A very important effort of the Company is that of "Better Light—Better Sight". The Cleveland Company, in its early residential promotion, devoted its efforts almost exclusively to lighting and the importance of the lighting market has not been lost sight of, even in recent years when such very considerable prominence has been given to electrical appliances in improving the ease and convenience of the home.

1631

The "Better Light—Better Sight" program has been in large measure an educational program to bring to the attention of people the importance of light in seeing. It has, however, had a counterpart in the sale of merchandise through cooperative efforts with dealers, distributors, retailers and others, to encourage the sale of lighting appliances, lamps, student lamps, table lamps, and similar merchandise.

1632

The "Better Light—Better Sight" effort in the educational aspects of it has been carried on through speakers who have spoken to audiences in the interest of eyesight conservation in the past six years, which audiences have totalled more than a million people in the territory served

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by the Company.

In addition to the lighting story there is further additional promotional information furnished on major appliances such as ranges, refrigerators, air conditioning equipment, stokers and other home appliances.

During the last year more than 15,000 people who have been interested in the building or purchasing of new homes have attended a series of meetings to learn more about planning, decorating, equipping and operating an all-electric home.

Q. Have those meetings been sponsored by the Company or by the Electrical League? A. The sponsorship of those meetings is usually by the Electrical League, although the participation of the Company in the activities of the League is well known and although the effort is specifically identified as a League effort. All persons dealing with the League well realize that the responsibility of the Company is behind the effort.

1634

Q. Is the same comment applicable to the "Better Light—Better Sight" program you spoke of? A. Yes, the same comments are applicable.

Q. Now, what have been the results of these promotional policies on use of appliances in your territory? A. In the matter of lighting, for example, about which I have just spoken, as a result of the "Better Light—Better Sight" program and in addition through the activity of the Home

1635

—876—

Lighting Advisers who have visited in the homes of the community to encourage the use of lighting and to educate the consumers in the advantages of adequate lighting, there have been added in the connected load of the Company in five years more than 53,000 kilowatts of lighting.

Q. Which five years are these? A. These are the five years from September 1935 when the effort of Home Lighting Advisers in visiting the homes was begun, until June of 1940.



1636

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The program followed by these Home Lighting Advisers which began five years ago and who now number 40, is a program of direct visitation to the home, the testing of the efficiency and the adequacy of the lighting as furnished by the fixtures in the home, survey of available lighting intensity and lighting outlets, and recommended improved methods of lighting to the householder.

1637

This has been a very popular phase of the Electrical League's activity. It has been one which has been requested on the part of a large number of home owners who have heard about the service rendered to others and have asked to have their own homes surveyed. It has resulted in vastly improved lighting, especially for school children, for home lighting has now been demonstrated to be a very effective tool in quick learning and rapid progress.

The number of Home Lighting Advisers now serving the Electrical League is 40. The number has been as great as 60 in 1937. At the beginning of the program in 1935, how-

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1638

ever, I believe the effort started with about 20. The number of homes that have been visited is 225,000 since the inauguration of the program and the total number of visits by Home Lighting Advisers has been 312,000. That is 87,000 of these homes that have been surveyed at sometime in the past have been resurveyed with a second visit from the Home Lighting Adviser.

The effectiveness of the program may be gathered from the results found in the kitchen, for example, where considerable importance should be given to adequate lighting because it is the room in the average home where the housewife spends a considerable amount of time and where lighting without

careful attention is likely to be inadequate. At the outset of the program in 1935 on the first call of the Home Lighting Adviser it was found that the average wattage in the kitchen lamp, or the kitchen fixture, was 82.5 watts. By 1936 this wattage found on the first call was found to have increased to 91. By 1938 it had reached 93, and as of 1940 the wattage in the kitchen in homes heretofore not surveyed is found to be 97.6.

This increase in wattage from 82.5 to 97.6 is a percentage increase of about 18 per cent.

1640

More significant, perhaps, than the wattage found on the first call is the wattage found in the kitchen on the second call to these more than 80,000 homes that have been resurveyed a second time.

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No re-survey is made prior to 18 months after the first visit and it is found now that homes re-surveyed have a wattage of lamps in the kitchen which average 108.2 watts, a wattage some ten per cent. greater than the figure of 97.6 watts in the homes being surveyed for the first time.

This is illustrative of the effectiveness of the program in improving the lighting only in a single room, the kitchen, but it is thought that the kitchen is an excellent measure of the general level of lighting throughout the house.

1641

Q. Who makes these surveys you spoke of? A. The surveys are made by the Home Lighting Advisers who represent dealers in the community under the sponsorship of the Electrical League. Because neither the League nor the Company desires to merchandise either appliances or lamps, and since the Home Lighting Advisers definitely do sell lamp bulbs for the improvement of lighting intensity in the home, and

1642

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sell lamps and other fixtures, these Home Light Advisers do not represent the League or Company directly, but represent dealers in the community.

The Home Lighting Advisers are, all of them, girls, ladies, and as representatives indirectly of the League but directly of dealers, perform these operations in the home.

Q. They are employees of the individual dealers, are they, or of the League, itself? A. Indirectly of the dealers under the sponsorship of the Electrical League.

1643

—879—

In the matter of results from major appliance promotional efforts, two of the outstanding electrical appliances available in the home are the refrigerator and the range. The electrical refrigerator was first introduced on any commercial scale for residential use in the middle 1920's and because it was felt that it satisfied a long felt need and was a definitely satisfactory piece of electrical merchandise it enjoyed an extraordinary acceptance among electrical users everywhere. The saturation of electrical refrigerators in the Company's territory—that is, by saturation I mean the ratio between the number of consumers now owning electrical refrigerators and the total number of consumers—that saturation is 65 per cent.

1644

Electric refrigerator sales are still being made at a very rapid rate. It is still a very important electrical appliance in the merchandising field, even though the saturation is as high as 65 per cent.

Q. Is that a system saturation you are speaking of? A. That is the saturation throughout the territory. For example, last year there were sold in the Company's territory more than 27,000 refrigerators. Yet this year to date the

sale of refrigerators is at a rate of 27 per cent. in excess of that last year. In the sale of electric ranges which is a high energy-consuming device and which requires in its annual operation about  $2\frac{1}{2}$  times as much electric energy as does the refrigerator, the saturation is not merely as great as in the case of refrigerators and is about 6 per cent. throughout the territory.

—880—

The situation is not, however, strictly comparable in the matter of consumer acceptance of the range as against the refrigerator because of the competitive situation. 1646

Cleveland is a community in which natural gas is available to a vast majority of our customers at quite low rates, and since natural gas has been for many years the accepted fuel for cooking, the Company must still consider the electrical range in the pioneering stage of promotion, especially in those portions of the territory where gas is available.

In the district shown on Exhibit 21 as the eastern three counties of the Company, natural gas is not available throughout that territory. In fact, manufactured gas is distributed in certain of the cities such as Ashtabula and Fairport, and in many of the smaller communities no gas at all is available. In such territories, the saturation of electrical ranges is very much greater than in the city of Cleveland, and in that general district the saturation of ranges is in excess of 20 per cent. 1647

The number of electrical ranges being sold, however, is on an increasing curve and although last year there were connected to the Company's lines about 3,800 electric ranges, the year 1940 to date shows an increase of 36 per cent. in ranges connected to the Company's lines over the same period in 1939.

1648

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It is further to be noted in connection with this, that the

—881—

rate structure of the Company was not conducive to the encouragement of electric cooking prior to 1937, when the promotional rate reduction of April 1 of that year was made, so that the range business is still in the preliminary stages of ultimate developments.

1649

There are, however, at the moment, 152 qualified dealers in the territory of the Company representing fifteen manufacturers as against very, very few such dealers active in the territory in 1935.

Q. You spoke of the various enterprises conducted by the Electrical League. Does it also have an Electrical Home Bureau? A. Yes, it does.

1650

Q. What are its functions? A. The Electric Home Bureau is an operation conducted by the Electrical League established in 1937, the functions of which are to contact from day to day architects, builders, contractors, kitchen equipment dealers, lighting dealers, and others engaged in the building and equipping of homes to educate them to the requirements of adequate lighting, promote the electrification of these homes for the complete use of electricity for all phases of the homemaker's job, not only refrigeration, cooking and lighting, but air-conditioning, both winter and where possible summer air-conditioning, the electric dishwasher, the electrical disposal unit for the kitchen sink,

—882—

well equipped laundries, adequate lighting throughout, the complete electrification of the home.

This effort requires the services of six field men under the direction of a Company employee who works with the



Electrical League. The efforts consist of frequent demonstrations and kitchen planning talks to these architects, building contractors and building owners, a consultation service with these on wiring plans.

An architect on the League staff assists with kitchen planning, and the effort in general is to make the provision early enough in the construction of the house to enable it to be an all-electric home.

The efforts are especially fruitful in dealing with apartment house owners and in the last few years of the apartments built or erected in the City of Cleveland and suburbs, none has been built without wiring for electric cooking and the all-electric kitchen, and only one of these has been installed without electric ranges in the kitchen, so that the program has been especially fruitful in the field of apartment houses, although the efforts are definitely tangible and the results satisfactory in individual home efforts.

1652

In the individual homes, efforts are made to encourage the use of motor-driven blowers for the circulation of warm air in warm air furnaces, and the installation of coal stokers which are motor-driven.

1653

—883—

These efforts have been reasonably successful and resulted last year in the sale of motor-driven blower units in the number of 1,850, and of stokers more than 1,550. These results are definitely due to the efforts, we think, of the Electric Home Bureau.

Q. Is the service of the Electrical League addressed primarily to development of residential consumption? A. Yes, although to the extent I have indicated it has fostered commercial and industrial sales. However, the major efforts of



1654

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the Company in commercial and industrial sales are made through direct commercial and power sales divisions of the Company's sales department.

Q. Rather than through the Electrical League? A. Rather than through the League.

Q. Could you describe the promotional policies of the Company with respect to commercial and industrial consumption? A. The power sales division of the sales department is under the direction of the supervisor of the Power

1655

Division, with fifteen men.

Cleveland is an industrial community and the prosperity of the Company in the past and the growth of the Company has been in large measure tied to the industrial and commercial development of the community.

Early efforts of the Company in power sales were largely

—884—

devoted to converting isolated power plants, so-called—those plants in which a small manufacturing enterprise did its own power generation—converting such plants to purchased power. Those efforts of the Company were very successful and the number of commercial and manufacturing establishments in the Company's territory now making all their power needs is only thirteen contrasted with this, that the Company has more than 1,800 large commercial and industrial customers.

1656

In the early years of the efforts of this division, there was a widespread use of internal combustion engines due to low gas and oil prices. The Company, however, by using qualified engineers in its sales divisions and particularly the power section of the sales department, working in co-operation with these manufacturers with electric motor and

equipment manufacturers, with consulting engineers, was successful in educating its potential customers to the economies of purchased power.

Special attention was and is given to new industries where no power equipment or generating equipment at least is necessary to be displaced and where the opportunities for selling purchased power are, of course, easiest. There are, in the territory, still some opportunities for displacing some partially used power generating equipment, and a class of equipment described as mechanical drive where pumps or other machinery are now driven directly by a steam engine or a gasoline engine or other prime mover, so-called, which

—885—

is a potential load for the Company when converted to a motor drive.

In downtown Cleveland, in the office building district, where there have been, prior to 1930, at one time or another, seventy isolated power generating plants, the number of these generating all of their needs has been reduced to only one, and the number generating a portion of their needs is only three others.

Q. Did some of these old plants which were in existence also provide steam on the premises on which they were located? A. Yes, and they are a sales problem requiring very careful analysis of the actual conditions prevailing. When both steam and electricity are required by the consumer, the economics of displacing the steam generation of electricity is not as clear-cut as in the case when steam demands are smaller, as a result of which the record of the Company in displacing such isolated plants in the hotel and downtown building district is the more impressive.

1660

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Q. In furnishing current to one of these purchasers that previously used its own facilities for the generation of power, and also for steam generation, were you at times confronted with requests to establish steam service as well as electric service? A. Yes, and as a result of those requests, we did establish that central steam service for the downtown area of Cleveland for heating.

—886—

1661

The commercial efforts about which you inquired are handled by the commercial division of the sales department under a supervisor with twenty-three employees and his contract is largely with retail sales establishments, small stores, small offices, small shops, those whose use is less than twenty kilowatts of demand, and the number of such customers is 35,000.

The territory of the Company is divided into salesmen's districts, and these men are each assigned to a territory for whose customers they are responsible.

1662

The average number of customers of the general commercial class served by each of these salesmen is about 1,600. The customers' needs for information as regards improved lighting, major appliances of a commercial nature such as commercial refrigeration in a grocery or a meat shop, cooking requirements in small restaurants, drug stores and similar places, those needs are served by the territory man in the retail commercial division.

Lighting there, too, is a very important effort in the sales program, since lighting as a tool for selling is coming into considerable prominence. Fluorescent lighting recently developed is one of the distinct opportunities for promotion

by commercial divisions as are the use of electric signs, spot lighting of merchandise, air-conditioning in those small spe-

—887—

cialty shops where air-conditioning can be sold, and similar load building activities and devices.

Q. Do you have a commercial division which handles the so-called commercial accounts? A. Yes. It is that division which I have described as the retail commercial division.

Q. Do you feel that the intensification of an industrial or a commercial promotional program results in definite advantages to the people located in your territory? A. Yes, and as evidenced by the very favorable response which the Company has received from its consumers, those efforts have been justified.

1664

Q. In what respects do the people of the territory benefit by promotional activities in industry or among large, commercial consumers? A. To the extent that the Company is able to contribute to the reduction in costs required in the manufacture of a product, or the sale of a product, the Company then benefits that manufacturer or seller, and to the extent that that manufacturer is able to improve his business in the community, the general prosperity of the community is raised and the residential and all consumers benefit.

1665

The specific benefits to residential consumers from such efforts of the Company as those of the Home Lighting Advisers and the home economists whose duty it is to assist the home-maker in the use of the electric range most espe-

—888—

cially in the planning of meals and the aiding in the design of electric kitchens, those intimate contacts in the houses

1666

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have brought many, many favorable comments to the Company from its consumers and this program, the Company has every reason to believe is well received by the community.

1667

Q. What types of advertising do you engage in? A. The Company's advertising department, under an assistant to the President, directs not only the advertising by the Company over its own name described as direct advertising, but in addition, serves as consultant and adviser in the advertising arranged by the Electrical League, the so-called League advertising, and a very important third type of advertising carried on in cooperation with the dealers and to which the Company contributes a share of the cost known as cooperative advertising.

The direct advertising by the Company, in addition to newspaper or ordinary periodical advertising, includes the preparation of sales promotion booklets, pamphlets calling attention to particular efforts and particular appliances, and similar activities.

1668

Q. Is advertising a rather expensive item of operations? A. Whether advertising is expensive must be judged by the results obtained. That the amount of money spent is great, is a correct observation, perhaps, but that it is expensive

—889—

is probably not a correct observation because the results received in the form of increased sales thereby resulting in reduced rates to consumers through reduction in costs, would cause me to say that the advertising promotion of the Company is not expensive.

In connection with the effort I described as cooperative advertising with dealers, the Company definitely stipulates

that the circumstances under which the Company will contribute to such advertising is that the dealer must advertise only merchandise of accepted quality, behind which the Company can stand.

The Company exercises this precaution in order that its efforts and its financing might not be used to promote the sale of shoddy merchandise in the community.

Q. Now, what have been the results of this promotional activity in addition to the specific instances you have already given? A. Reference to Exhibit No. 25 shows the increased use per residential consumer resulting from the promotional efforts and other factors over the last thirty years.

1670

The efforts during the early period from 1910 to 1920 were substantially all devoted to just getting customers. As a result, the average use per consumer did not go up very rapidly because, as new consumers were attached to the lines, those were likely to be small, low-use consumers, and it will

—890—

be noted, for example, between 1912 and 1915 that the average use per customer actually went down during a period when the number of customers increased from 50,000 to about 90,000.

1671

Q. You don't feel, of course, do you, that the fact of increase is due solely to promotional activities? A. Well, the availability of appliances, of course, have contributed very substantially to this increased use, but in very large measure the increased use per residential consumer has resulted from the educational and promotional policies of the Company and of the industry.

The corresponding information for the general commercial customers may be seen from Exhibit 26, in which it is



1672

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seen that between 1916 and 1939 the increase per customer has increased from about 1,300 to almost 4,000, a three-fold increase.

Q. Excuse me, did you say 1,300? A. Yes, 1,300.

Turning our attention to Exhibit 25 on residential consumption for the same period, namely 1916 to 1939, it is seen that the average use per residential customer has increased from 300 to 924, again a three-fold increase.

1673

Since 1916, the trend of increased use per residential customer on an annual basis has been uninterruptedly upward with the single exception of 1933, when, as a result of the depression, the average use per customer in that year was actually lower than the year before.

—891—

1674

Since the revival of effort on the part of the Company and its sales promotion policies which had been interrupted in the early period of the depression, and in substantial measure because of the inauguration of these very successful promotional activities, such as the "Better Light—Better Sight" program, the Electrical Home Bureau, the inauguration of the Company's residential promotional division in 1934, that rate of increase from 1933 to 1939 is more rapid than that experienced during any other period of the Company's history, and it is further of significance, we think, that the rate of increase during 1940 is even more rapid than has been experienced in any of the previous years, and the increased use per residential consumer, this year, over last year, will be probably an all-time record increase.

Q. Would you refer to Exhibit 27? A. Yes.

Q. The curve shown for kilowatt hours per consumer is very irregular. Can you explain the irregularities? A. Yes.

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This is quite an interesting exhibit in that it portrays not only the results of the promotional efforts on the part of the company, but indicates the widely fluctuating conditions resulting from a highly industrialized community.

For example, in 1929, the average use per customer of  
—892—

this class was about 530,000 kilowatt hours per year. By 1932, as a result of the drastic contraction in industrial and business activity, that average use per industrial and large commercial customer, had declined to 330,000.

1676

The revival of activity then began, and by 1936 and 1937 this was substantially above the 1929 level and had reached about 560,000 or 570,000 kilowatt hours.

In 1938, there was a drastic reduction in activity. The average use declined to 450,000 kilowatt hours, but was restored again in 1939. The 1940 figure is again such as to indicate a new all-time high in the average use by these customers.

The Examiner: During the luncheon recess, counsel for the Respondents and counsel for the Commission indicated that they would like to have some time this afternoon to go through the record and look for corrections therein and I will now recess for that purpose for the rest of the afternoon.

1677

We will continue tomorrow morning at 10:00 o'clock.

(Whereupon, at 3:45 o'clock p. m., the hearing was recessed until 10:00 o'clock a. m., August 8, 1940.)

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1678

BEFORE THE  
**Securities and Exchange Commission**

Docket No. 59-10

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IN THE MATTER

of

THE NORTH AMERICAN COMPANY, *et al.*

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1679

Hearing Room 1103,  
Securities and Exchange Commis-  
sion Building,  
Washington, D. C.,  
Thursday, August 8, 1940.

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Met, pursuant to recess, at 10 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

1680

RALPH C. BINFORD,

ARTHUR J. BUSWELL, Attorneys for the Securities and  
Exchange Commission.

CHARLES S. HAMILTON, JR., of Sullivan & Cromwell, 48  
Wall Street, New York, N. Y., attorneys for the Re-  
spondents.

S. PEARCE BROWNING, JR., of Sullivan & Cromwell, 48  
Wall Street, New York, N. Y., attorneys for the Re-  
spondents.

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PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon, ELMER L. LINDSETH resumed the stand and testified further as follows:

*Direct Examination by Mr. Hamilton (Continued):*

Q. Mr. Lindseth, would you refer again to Respondents' Exhibit 24. Will you explain that exhibit further? A. I have described the significance of the lower three curves being electric production expense per kilowatt hour sold, electric operating expense per kilowatt hour sold, and the sum of the two indicated as the total electric operating expenses per kilowatt hour sold.

1682

The uppermost curve is the electric revenue received by the company per kilowatt hour sold, and shows a long time declining trend from 1921 to 1939, from 2.47 cents per kilowatt hour average revenue received in 1921 to 1.77 cents per kilowatt hour average revenue received in 1939.

This overall decline in revenue is thus seen to be 0.70 cents per kilowatt hour for the 18-year period.

1683

The corresponding decline in electric operating expenses during the same 18 years was slightly less than 0.60 cents per kilowatt hour, having been reduced from 1.28 cents per kilowatt hour in 1921 to 0.69 cents in 1939, a decline of .59

—895—

cents per kilowatt hour.

Thus it is seen that the overall reduction in revenue received per kilowatt hour, or the selling price, has been greater than the decline in the total operating expenses per kilowatt hour.

1684

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Important components in the cost of selling energy, however, are present other than those shown on the diagram, namely, taxes and depreciation.

1685

The fixed charges on investment are a major element in the cost of power. During the period shown on the exhibit, the investment required per dollar of gross revenue has increased substantially, that is from a value of \$3 of investment—or fixed assets is better—required in 1921 per one dollar of gross revenue, and from this level the ratio has increased to a ratio of about \$5 in 1939 of fixed assets required per one dollar of gross revenue.

But because of the trend in the number of kilowatt hours furnished per one dollar of gross revenue received, the investment in fixed assets required per kilowatt hour sold as of 1921 was 8.36 cents. And the corresponding figure as of 1939 was increased only to 8.54 cents. That is, within the limits of difference, it may be said that the investment required per kilowatt hour sold in 1939 was only slightly higher than the corresponding investment required in 1921.

1686

Taxes per dollar of revenue have similarly increased at a very rapid rate during the 18 years being discussed, but again, because the number of kilowatt hours furnished per dollar of revenue received has very markedly increased, the resulting taxes per kilowatt hour sold have been maintained at a level on slightly below that prevailing 18 years ago.

The taxes per kilowatt hour sold in 1921 were .307 cents per kilowatt hour. The corresponding taxes in 1939 were .286 cents per kilowatt hour—a slight decrease.

The rate at which depreciation has been charged when related percentagewise to fixed assets is lower in recent

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1687

years than prevailed 18 years ago, but because of the compensating effects of the increase of investment fixed assets required per dollar of gross revenue, and the accompanying increase in the number of kilowatt hours sold per dollar of gross revenue, the two effects of these have yielded an investment slightly higher per kilowatt hour in 1939 than in 1921, and the depreciation charges today per kilowatt hour are substantially those of 18 years ago. The charge for 1939 was .223 cents. The corresponding figure for 1921 was .242 cents per kilowatt hour.

1688

Thus, fixed charges exclusive of return, that is taxes and depreciation, have decreased in the 18-year period by .040 cents per kilowatt hour or 4/10 of a mill.

Thus, it is seen that such fixed charges have not decreased in the 18-year period to the same extent at all as have oper-

—897—

ating expenses been reduced.

Since the reduction in revenue received per kilowatt hour exceeds the reduction in operating expenses per kilowatt hour for the 18-year period by an amount in excess of 1 mill per kilowatt hour, and during the same period the corresponding reductions in taxes and depreciation have been but 4/10 of a mill per kilowatt hour, the excess reduction in revenue above that accounted for by depreciation, taxes and operating expenses has come from the reduced return received on the investment required, which during the period has actually increased.

1689

Mr. Hamilton: May this document be marked Respondents' Exhibit 29 for identification?

The Examiner: It will be so marked.



1690

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(The document referred to was marked "Respondents' Exhibit 29 for identification.")

*By Mr. Hamilton:*

1691

Q. Will you explain, Mr. Lindseth, what Respondents' Exhibit 29 for identification portrays? A. This shows for the Cleveland Electric Illuminating Company system the B. t. u. per kilowatt hour of net output record of performance of the power plant system from 1920 to 1939, inclusive, and the production expense in cents per kilowatt hour or net output for the period from 1911 to 1939 inclusive.

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Q. This chart has been prepared under your supervision?

A. Yes, it has.

Q. The facts shown are taken from the records of the company? A. Yes, sir; from the Statistical Department records.

Mr. Hamilton: I offer it in evidence as Respondents' Exhibit No. 29.

1692

Mr. Binford: No objection.

The Examiner: It is received in evidence under that number.

(Respondents' Exhibit 29 was received in evidence.)

*By Mr. Hamilton:*

Q. Some of the facts shown, Mr. Lindseth, are those as to which you testified yesterday, particularly with reference to system B. t. u. Would you refer now to the exhibit and

explain the meaning of the term "net output?" A. In the generation of power, all of the electricity generated in the power plant is not available for delivery from the plant to the transmission and distribution systems, being required in part for the operation of auxiliaries, station lighting and other plant uses within the power plant itself. The amount of energy delivered from the power plant to the transmission and distribution systems, which is the aggregate or gross generation reduced by the amount of generation required

—899— 1694

within the power plants is referred to as "net power."

The production expense as shown on Exhibit 29 then is the production expense per kilowatt hour of such net output from the power plants.

Q. I note from the exhibit that system B. t. u. is shown only as far back as 1920, whereas production expense is shown back to 1911. Why is there a difference in the period shown? A. The difference arises from the availability of the data. Accurate records of plant performance expressed in more precise units of B. t. u. per kilowatt hour net are not available prior to 1920. Costs, however, are available over a much longer period.

1695

Q. Production expense as shown on this exhibit is not, for the reason that you have stated, completely comparable to electric production expense as shown on Exhibit 24, is that right? A. That is correct. The electric production expense as shown on Exhibit 24 is the electric production expense per kilowatt hour sold, and differs from the electric production expense per kilowatt hour of net output from the generating plants by virtue of the fact that all of the energy deliv-

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ered to the transmission system, or better perhaps delivered from the power plants is not available for ultimate sale to consumers, being in part lost through transformation, conversion, transmission and distribution losses, and in part

—900—

because of substantial amounts of such energy are used in company operations at sub-stations and other points on the system.

1697

On Exhibit 29, the curve shows a marked rise in production expense in 1920 as compared with relatively low levels in preceding years. Would you explain the abruptness of that rise? A. In the period prior to 1915 or 1916, the pre-war period for World War No. 1, the prices of coal did not for the 10 years between 1906 and 1915 ever reach as high a value as \$2 per ton. The maximum, as a matter of fact, was \$1.82. That first point shown on the diagram, 1911, the cost of coal per ton was \$1.49. Wages and supplies were correspondingly low in cost.

1698

Shortly after the outbreak of the World War, and more especially in 1918, 1919, and during the post-war inflation of 1920 and 1921, the price of coal rose very rapidly. As of 1920, the point on the production expense curve which is a maximum, the average price of coal during the entire year was \$5.77 per ton, and at times reached a level of \$7 per ton.

The Examiner: Were these prices at the mines or delivered in Cleveland?

The Witness: These were prices delivered at Cleveland, and they are the price which goes into the price of the energy at the power plant.

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1699

Mr. Buswell: By the prices delivered at Cleveland, you mean prices at the respective plants of the company, Cleveland and elsewhere?

The Witness: Yes, that is correct.

*By Mr. Hamilton:*

Q. Although during that period, there was just one generating station, so it was delivery at the power plant? A. There were two.

The Examiner: They were delivered prices rather than at-the-mine prices? 1700

The Witness: That is correct.

*By Mr. Hamilton:*

Q. Now, will you proceed? A. Hence, the decline in production expense per kilowatt hour as between 1920 and 1939 embodies more elements than merely that shown by the upper curve which represents the efficiency of generation but which represents the combined effect of fuel consumption, fuel cost per ton, labor, supplies and material costs, and the other components of production expense. 1701

It should be noted, however, in connection with the upper curve of improvements in system economy, that this shows a substantially uninterrupted trend for the 18 or 19 years shown. The only reversal was in 1937, caused by some extraordinary construction conditions on the system, requiring

—902—

the operation of relatively inefficient capacity during the periods of temporary construction.

During the period shown, there was substantial improvements in stations' equipment, in design and construction of

1702

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two modern power plants, but during the period such as between 1931 and 1937, when the improvement in the efficiency of power plant operation was 10 per cent., that is, the reduction in B. t. u. per kilowatt hour was from 16,600 in 1931 to 15,000 in 1937, this substantial improvement was achieved without the addition of new or efficient capacity, although in the early part of the period—1932—there was the removal of some relatively inefficient equipment from the Lake Shore plant.

1703

Q. What is the extent of the company's coverage of rural territory in the system? A. Reference to the portion of the territory served by the company, Exhibit 21 shows the extent of incorporated municipalities, and the extent of unincorporated areas in the company's total service territory. The cross-hatched sections of this exhibit are incorporated municipalities described in the company's records and in my testimony as urban, even though the population of some such incorporated villages is quite small.

Q. What is your definition of the term "rural" for pur-

—903—

1704

poses of this statement? A. Rural territory is territory outside of incorporated municipalities, and on Exhibit 21 shown here, the extent of rural territory served is about 1,150 square miles and the extent of urban territory is something over 500 square miles.

Q. In this rural territory which you spoke of, how much in terms of mileage do the company's lines traverse? A. In the rural territory, there are 2,200 miles of public highway. Of these, the company's lines now traverse 1,300 miles, or 60 per cent. This 60 per cent. of highway coverage brings the service facilities of the company available to 74 per cent.

of the potential rural customers in the entire territory. 61 per cent. of these potential rural customers are now served.

Q. Is the expansion in this territory a fairly constant one, in other words, progress is being made all the time? A. Yes. Line extensions or increases in the company's facilities are continuously being made. As of last year, for example, the increase in the miles of rural distribution lines or these highways traversed was 5 per cent., being 56 miles of additional distribution system in rural areas. These rural distribution facilities have been built substantially all by the company's construction, and of the aggregate number of customers in such areas, but 6 per cent. were acquired by pur-

1706

—904—

chase by the utilities.

Q. So that the high coverage which has resulted has been primarily due to extension of your own facilities? A. Yes, that is correct.

Q. How does the number of persons served in this so-called rural area compare to the number of potential rural customers? A. The number of potential rural customers in the company's territory is estimated to be 26,500 under the conditions presently prevailing of the population in the district. The number of such potential customers now served is 16,225 or some 61 per cent. saturation of potential customers. Service is available to an estimated 19,600 of such rural customers, or 74 per cent. of the presently potential customers.

1707

Q. Would you explain what you mean by "potential"? A. When referring to customers in the district, a house is considered, or a suite in an apartment, a store unit—any of these—is considered a potential customer. When he takes



1708

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service from the company he becomes an actual customer. The aggregate figure then of 26,500 potential rural customers represents then the number of customers the company would now have were every person who might take energy in the district actually to do so.

Q. How does the number of farms in the territory actually served compare with the potential number of farm cus-

—905—

1709

tomers in the territory? A. In connection with discussion of farms and farm customers, I would like to differentiate between the two, that is between the number of farms and the number of farm customers, since matters of definition are there involved.

There may be more than one customer per farm when on a given farm several houses are located, for example, each of which becomes a customer.

For the company's statistical record purposes, a farm is defined as a tract of land of 3 or more acres used mainly for agriculture, or one of less than 3 acres when the owner or tenant devotes his entire time to agriculture thereon.

1710

The farm then in rural territories, i.e., unincorporated territory, is a rural farm. A farm so defined in urban territory, that is an incorporated municipality, is described as an urban farm.

A farm customer is a customer located on a farm, and when as happens in the case of the Cleveland company, the number of farm customers actually exceeds the number of farms, statistical data are more reliable when related to farm customers.

In the case of the company as of the present time, the ratio between farm customers and farms is approximately

1½—that is, there are about 1½ farm customers per farm.

Within these definitions, then, the number of potential

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farm customers in the rural areas served by the company is about 11,900 in the rural areas. The corresponding figures in the urban areas are 3,400 potential farm customers, an aggregate of 15,300 potential farm customers in the entire service area.

Service is now available to 9,600 of these potential farm customers, or 63 per cent. Because not all farms to which service is available actually utilize that service, the number of farm customers now served both rural and urban is 7,700, representing 50 per cent. of the total potential farm customers.

1712

Q. And what percentage of those farm customers to whom the service is available? A. What is that?

Q. That is, this is a relation of your 7,700 figure to 9,600?

A. Of the farm customers to whom service is actually available, 80 per cent. now avail themselves of that service and are customers of the company.

Q. Has the number of farm customers actually served shown a marked increase in recent years. A. In the 6-year period from 1933 to 1939, the number of farm customers, urban and rural, has increased from slightly over 6,000 to the 7,700 presently served, an increase of 27 per cent. During the same period, the number of rural customers served, farm and others, has increased from about 12,500 to about

1713

—907—

16,225, an increase of 30 per cent. in the total rural customers served.

1714

*Elmer L. Lindseth—By Respondents—Direct*

Q. Now, would you relate if you can, the increase in distribution lines in these rural territories for the same period? A. As of this period from 1933 to 1939 during which the number of rural customers has increased 30 per cent. and the number of farm customers, urban and rural, has increased 27 per cent., the required distribution line to serve these customers has increased more rapidly than either and has increased 38 per cent. in the period.

1715

Q. And in terms of actual mileage added, what are the figures? A. The actual miles of rural distribution line as of 1933 was 950. The corresponding mileage of rural distribution as of 1939 was slightly over 1,300. The increase then is about 350 miles of rural distribution line increases in the period.

Mr. Buswell: Is this increase located in any one particular section which you serve, or is it general in your rural sections served?

1716

The Witness: It may properly be said that this increase is quite general, since it represents the aggregate of a very large number of rather small jobs, but due to the economic aspects of the problem, namely, that the rural line extensions are paid for in part

—908—

or at least part of their cost contributed to by the consumer in the more prosperous areas, and those adjacent to the built-up sections, the line extensions are likely to be more rapid. The number of line extension jobs last year, of rural line extensions, was 250 individual extensions, and since the average line extension serves about 3.1 customers, the number of

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additional rural customers to whom service was made available and who took that service was about 750 last year. Since 1936, about the last three or four years, there have been 1,020 such individual construction jobs.

Q. The figures which you have given then are the system figures? A. The data are in all cases system figures.

Q. And are to be related, of course, to the territory shown on Exhibit 21? A. That is right.

1718

Q. Do you feel that the company's line extension policies in rural territory have been favorable to the consumer? A. These line extension policies have been favorably received by the consumers. The consumers are at a reasonably progressive rate taking service from the company, and there is nowhere in the company's territory any R. E. A. required for the service of rural or farm customers. The facilities of the Company in all cases have been utilized.

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Q. What do you mean by "R. E. A."? A. Rural Electrification Administration.

1719

Q. Project. A. Project. The present line extension schedules of the company enable these potential farm or potential rural customers to receive a service at reasonable cost. The company's first line extension schedules became effective in 1917 under which an applicant deposited with the company the estimated cost of the line extension and was entitled to refunds as other customers were connected to the lines, at the rate of \$20 for each of such customers connected.

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Although the details of this plan have changed somewhat in the 23 years since the plan was inaugurated, the present plan of line extensions embodies the fundamental principles which have prevailed since the beginning, namely, that the applicant for service deposits with the company an amount toward the cost of the extension which is determined in accordance with the schedules filed, and second, that as additional customers are added to the lines, or as the lines are used for transmission or street lighting facilities, that re-funds are made to the depositor in accordance with filed schedules.

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The present schedule applicable to rural line extensions has been in force about 4 years. This schedule permits an applicant for service in rural areas a free extension when the length of line required does not exceed 200 feet. When

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the facilities required exceed 200 feet, the consumer or the applicant deposits with the company an amount towards the cost of construction equal to \$25 per 200 feet of pole line required in excess of the free extension.

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For example, if an applicant for service requires line construction in an amount of 600 feet, he is entitled to 200 feet free and would thus make a deposit of \$50 towards the cost of the line construction. Under a refund provision, however, should another applicant between the first applicant and the last point of service of the company request service, the company would then make a \$25 refund to the original depositor because of the acquisition of a second customer, making the total amount on deposit \$25; and this \$25 would then be divided between the two applicants, and each would then have on deposit with the company \$12.50.

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In the event that a third customer would make application in the area on this line extension, the last \$25 of deposit would be refunded to the consumers, and the facilities would then have been built entirely at the cost of the company and all deposits refunded.

In considering the cost of such line extension schedules, the rates under which the consumer is served should be given consideration, and it should be noted in this connection that such rural consumers, regardless of their location, are served

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at precisely the same rates that residential consumers are served at anywhere in the territory, whether city or rural.

Q. Is there an optional schedule available to rural customers on extensions? A. Yes, sir; such an optional schedule filed with the Public Utilities Commission in accordance with a plan whereby the consumer does not make deposits with the company for the line construction but pays an amount monthly as a minimum bill, which is 2 per cent. of the estimated cost of the line. No customer or no applicant of the company has elected to be served under this optional schedule. All of them have elected to take so-called rural line extension schedule under which deposits are made.

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Q. In recent years what has been the average number of extensions per year in rural territory? A. The average is about 250 per year.

Q. For what period? A. For the last three or four years, since 1936.

Q. And how many customers per extension have been added through this means? A. The average number of customers per line extension job is about 3.



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Q. And how is that number of extensions distributed throughout the territory? A. More than half are in the 3 counties of Ashtabula, Lake, and Geauga.

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Q. Approximately what number? A. 550.

Q. During the period you have referred to? A. Since 1936.

Q. Out of a total of how many? A. Out of a total of 1,020.

1727

Q. Throughout the system? A. Throughout the system.

Q. What have been the effects of promotional policies in maintaining load or getting load requirements in the rural territory? A. Since 1926, the company has followed a policy of vigorous rural load promotion of an educational character primarily to make available to farmers and other rural customers adequate information as to the availability of equipment, water pumping systems and the like for the consumption of energy. These promotion programs have included, for example, display tents at county fairs for the cooperative display of merchandise with local dealers and merchants.

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The electric farm equipment has been very definitely improved in recent years, and load growth in the company's rural area has been rapid.

There have been in addition to these cooperative displays, programs presented on electrical subjects at farmer insti-

—913—

tute meetings, meetings of the Grange, and at the county fairs, and during a portion of the period from 1934 to 1937, the company circulated among approximately 1,000 custom-

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ers, a magazine "Electricity On The Farm," and during the next year another magazine "The Electric Ruralist."

The company in rural territories maintains sales representatives, territory men so-called, who have an adequate familiarity with electrical equipment such as brooders, poultry water heaters, soil heating equipment, feeder grinders, and other farm equipment, as well as residential equipment.

Q. Have these promotional policies resulted in increased consumption in rural territory? A. Specific data are not available for the rural territory alone, but for the portion of the system roughly to the east of Cuyahoga County, made up of 16,000 rural customers and about that many urban customers, the average use per residential consumer is as of the end of June, 1940, 1,063 kilowatt hours per consumer.

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This compares with a corresponding figure for the portion of the system made up roughly of Cuyahoga County and a small part of Lake County for which the average used was 950 kilowatt hours per customer, indicating that the average use in the eastern portion of the system is about 10 or 11 per cent. in excess of the average use among residential consumers in the territory shown as Cleveland and suburbs on Exhibit 21.

1731

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Q. What is the company's present rate structure? A. The company's present rate structure is one in which there are a number of schedules available to various classes of consumers in accordance with the character of the use required by the customers.

For example, there is available a residential schedule. A single residential schedule is not only available to, but

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is used by all residential consumers throughout the territory, but a single schedule suffices.

For general commercial customers or small consumers of a commercial nature using less than 20 kilowatts of demand per month, there are but two schedules required,—one for alternating current service throughout the territory, and a second for direct current service in the limited downtown area of Cleveland in which direct current service is available.

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The vast majority of the large commercial and industrial customers, that is those whose demand exceeds 20 kilowatts per month, for 1,200 or more of such customers, but 5 schedules are applicable throughout the range of the size and service conditions for alternating and direct current service for off peak and for special guaranteed load factor.

This simplicity of schedules also extends to the demand billing requirements of the schedule, and the demand billing requirements are favorable to the customer, and billing demands are on a one hour basis. The average of 4 weekly one hour demands being the monthly billing demand without

—915—

1734

correction or alteration for previous peak loads experienced or encountered.

Q. What are the rates actually charged a residential customer as of this date? A. The present residential schedule is 35 kilowatt hours per month at 4 cents per kilowatt hour. The next 65 kilowatt hours per month at 3 cents per kilowatt hour. The next 150 kilowatt hours per month at  $2\frac{1}{4}$  cents per kilowatt hour, and the excess over 250 kilowatt hours per month at  $1\frac{1}{2}$  cents per kilowatt hour. The minimum bill is 60 cents included in which are 15 kilowatt hours.

Q. There are no discounts or penalties? A. There is neither a discount nor a penalty.

Q. Are all of the schedules of rates to which you have referred uniform throughout the entire territory? A. Within the conditions of the availability of the service, the territory is served in its entirety by a single set of rate schedules. The direct current is available in only a limited area,  $1\frac{1}{4}$  square miles in downtown Cleveland, but alternating current is available throughout the territory, and the rates for this service are uniform throughout.

Q. So that a resident of Ashtabula pays precisely the same amount for the same number of kilowatt hours used as does a resident residing in the center of the public square of Cleveland, if there were such a person. A. That is correct.

—916—

Mr. Buswell: Provided he receives service from your company?

The Witness: Yes, that is right. We have control over the rates only over our own customers.

By Mr. Hamilton:

Q. Under the illustrations I have used, there would be no other possibility of service? A. Yes, there would be on the public square of downtown Cleveland.

Q. I believe you spoke yesterday of the importance of promoting industrial load in the territory. Does the increase of industrial load have definite economic bearing on the prosperity of the community? A. Well, in a community in which industrial requirements are so important a part of the company's total service, the importance of industrial and commercial rates cannot be overlooked. The company has long maintained a policy of balanced rate structure between the

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several classes of service, such as residential, general and commercial and industrial consumers.

In the belief that it is vital to the welfare of the community that there be maintained such a proper balance, residential electric rates receive an amount of attention out

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of all proportion to their true importance. It is extremely vital to an industrial community of the type served by the company that the rates for industry and commercial enterprises be such as to promote new industries moving into the territory, to promote the retention of industries already there, and that the residential rates not be made so low as to hamper the industrial and commercial development of the community by requiring inordinately high industry and commercial rates.

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The company has long recognized this situation, and throughout its history has maintained industrial and commercial rates not only so attractive as to induce business into the community, but so attractive as to virtually eliminate isolated generating plants in the territory. It is only in an extraordinary case in which it proves economical for a potential consumer of the company to generate its own power.

1740

Q. What has the company's record been with respect to rate reductions? A. Since 1920, the company has made 7 voluntary rate reductions in its residential schedules; 6 in its general commercial schedules; and 7 in its large commercial and industrial schedules. Throughout its history, the company has followed a practice of making voluntary rate reductions, and there has been only one rate required to be fixed by the Public Utilities Commission of Ohio as the result of an appeal by the company, and in this case the

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rates previously in effect by the company were determined by the Commission to be fair and reasonable.

Q. When was that? A. That was in 1919 and 1920—the beginning of this period I speak of. The most recent general reduction in rates made by the company was effective only 4 weeks ago—on July 7, 1940, when the company reduced its rates to customers throughout the territory in an amount of \$1,400,000 per year.

Q. How was that figure derived? A. The figure for the estimated reduction is based on the application of the new rate schedules to the actual amount of business which the company did in 1939, so that more properly it should be said that rate reductions were put into effect on July 7 in the form of new schedules which when applied to the business done in 1939 would result in a reduction of \$1,400,000. Since the volume of business being done and expected to be done in 1940 will exceed that of 1939, the reduction applicable to 1940 level of business will be in excess of the \$1,400,000.

The Examiner: We will have a short recess.

(Whereupon, a short recess was taken after which the hearing was resumed.)

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The Examiner: You may proceed, Mr. Hamilton.

*By Mr. Hamilton:*

Q. You were speaking of the effect of the recent rate reduction on revenues of the Company. How do the new rate schedules which have been filed or which were in effect pursuant to the rate reduction compare with those in effect



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prior thereto? A. The reduction in rates for residential consumers, computed on the basis of the energy used as of 1939, amounts to \$840,000.00 out of a total reduction of \$1,400,000.00. This reduction is accomplished by a reduction to the new rate schedule to which I just testified from the former rate schedule which was 50 kilowatt hours at four cents per kilowatt hour, one hundred kilowatt hours at 2¾ cents per kilowatt hour, and the excess over two hundred kilowatt hours at 1½ cents per kilowatt hour.

1745

The minimum bill remained unchanged at 60 cents.

Q. Can you translate that reduction in terms of annual bills to the residential customer? A. The average revenue received per residential consumer in 1939 was \$33.15. Computed under the new rate schedule which became effective on July 7, 1940, the corresponding annual revenue per customer would be about \$3.00 per year less. It is expected, however, that because of the increased consumption to be realized per residential consumer in 1940, and because of the

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1746

fact that the recently effective rate reduction is applicable only to the last half of 1940, the average revenue received per residential consumer or the average annual total of bills paid per residential consumer, will not be \$3.00 less than the \$33.15 average for last year, but is likely to be reduced substantially less than the \$3.00.

Q. On the basis of increased consumption? A. In part, and on the basis of the fact that the rate reduction is applicable only through the last half of the year.

Q. What has been the Company's record on increase of average residential consumption? A. Reference to Exhibit 25 will show that the average annual use per residential con-

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sumer has shown, with only the single exception of 1933, a continuous increase over the last twenty-three years from 1916 to 1939, inclusive.

During 1940 to date, the rate of increase is even more marked than shown during the year 1939, and the trend for 1940 will be again markedly upward. The average use as of the end of 1939 was 924 kilowatt hours per consumer and as of June 30, 1940, this figure was 960 kilowatt hours per consumer.

Mr. Buswell: That isn't shown on the Exhibit?

1748

The Witness: That is not shown on the Exhibit. The revenue received per residential consumer in the amount of \$33.15 for the year 1939 was at an all-time high with the possible exception of the period prior —921— to 1905 for which I do not have data available.

For the period at least from 1905 to 1939, the revenue received per residential consumer in the amount of \$33.15 was an all-time high.

*By Mr. Hamilton:*

1749

Q. Has the average consumption of general commercial customers shown a corresponding increase? A. The corresponding data for general commercial customers are not so regular, being more susceptible to variations in business activity.

Reference to Exhibit 26 reveals a very rapid increase in average use per general commercial customer from 1927 to 1929, a very slight increase to 1930, no increase during 1931, and a drastic decline to 1933, following which there was a sharp recovery to a new high in 1936.

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The data are not strictly comparable throughout the entire period, due to the fact that in 1937 there was a reclassification of customers with the addition of certain customers therefore classed as residential and thereafter classed as general commercial which were smaller consumers than the average of general commercial customers, resulting in some slight distortion in later years, particularly '37, '38 and '39.

The effect, from a long-range viewpoint, however, is for increased average use per general commercial customer.

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Q. The reclassification of which you have spoken accounts in part, at least, for the drop shown in the curve for the period 1937-38? A. Yes, in part due to reclassification and in part due to the drastic curtailment of business activity in 1938.

Q. What has been the Company's record with respect to increase in average large commercial and industrial consumption? A. This has been subject to even more violent fluctuations than that of the general commercial customers and is shown on Exhibit 27, the curve bearing the legend "Kilowatt hours per consumer."

1752

Here is indicated the marked effect of the recession in business during 1938 and the drastic decline during the years 1931, '32, and '33.

Mr. Buswell: And '33?

The Witness: Well, 1933 showed a recovery from 1932, but was still at quite a low level of average use per consumer, being actually less than 1931 and lower than any of the years other than '32 between 1928 and 1939.

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*By Mr. Hamilton:*

Q. Would you refer now to Respondents' Exhibit No. 28 which sets forth certain figures as to average net billings for residential consumers, and would you explain the legend shown in the right-hand corner of the chart bearing the references "A" and "B"? A. This chart shows for three use

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brackets; namely, twenty kilowatt hours per month, fifty kilowatt hours per month, and one hundred kilowatt hours per month, the monthly bill incurred by the consumer. 1754

The note referring to the hours of daily use is applicable to the bills prior to 1919, during which there were in effect rate schedules of the Company under which the charge per kilowatt hour was based on the hours of use or rate of demand, using the upper curve, the one hundred kilowatt hours based on five hours daily use of his demand, the monthly bill would be that shown by the lower curve or the "B" curve.

Should that customer, however, have used one hundred kilowatt hours as a result of shorter use, three and a half hours per day, of a higher demand, his bill would have been the higher one represented by curve "A". 1755

Since 1919 such rate schedules have not been in effect and under the schedules in effect during the past twenty years, the consumption of one hundred kilowatt hours by a consumer is at a fixed bill regardless of the demand incurred by that customer.

The block type of line indicates the frequency and extent of rate reductions afforded the consumers of the Company

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during the period of the diagram which covers the last twenty years.

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About one-half of the Company's customers use an amount of energy which in the average is that shown by the middle curve, fifty kilowatt hours per month, and it is seen that as of 1920 the bill for this amount of energy was about \$3.35. But, in accordance with the Company's recent rate reduction put into effect on July 7 of this year, the new rate for the corresponding amount of energy used is \$1.86.

Similarly, for the larger user whose monthly consumption is one hundred kilowatt hours, and under the most severe conditions shown by curve "A" based on three and a half hours daily use, the bill for this amount of energy in 1919 prior to the rate reduction was about \$6.70.

The corresponding figure today, recognizing the effect of the recent rate reduction, is \$3.35, a cut to exactly one-half of the bill for twenty years ago, or twenty-one years ago.

1758

Q. This exhibit, then, gives effect to the new rates and rules now in operation? A. It does, by being extended through the year 1940 to 1941, it being expected that no further changes in the Company's rate schedules will be made during 1940.

That, perhaps, should be a dotted line to show that it is strictly a projection into the future.

Q. Has the Company ever increased its residential rates? A. No, residential rates have not been increased.

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Q. Have there ever been increases in other classes of service? A. Yes. During the period of very rapid increase

in coal and other costs, during the period of the World War and immediately following, about which I testified in connection with Exhibit 29 on production expense, during that period it was necessary for the Company to increase its large commercial and industrial schedules and its general commercial rates.

Just before the full impact of war conditions was felt on the Company's economy in 1915, a rather drastic reduction in rates was put into effect for general commercial rates which required, in 1917, a rate increase as a result of the extraordinary rapid increase in costs.

Correspondingly, in large commercial and industrial rates such increases were made in 1917 and in 1920, both resulting from the same unprecedented increases in the costs resulting from war. The rate increases were only temporary, however, and by 1924, the trend in voluntary rate reductions was again resumed and has continued in its progress toward lower costs for the consumers since that date.

Q. You have testified previously as to the comparative absence in the territory of industrial or other units which manufacture power for their own use. Can you illustrate that statement? A. Based on a survey made by the Com-

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pany, the number of the so-called isolated plants, commercial and industrial, in seventeen hundred square miles of territory which generate all of their own power needs, is but thirteen.

This is less than one per cent. of the number of large commercial and industrial customers of all classes which the Company now serves.



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In the territory, among the Company's customers, there are thirty additional large commercial and industrial establishments who generate a part of their electric needs. This is about two per cent. of the Company's customers of this class. This is rather effective indication of the reasonableness of the Company's rates for this class of service when shown by the lack of competitive industrial supply through isolated plants.

1763

Q. Are your rate schedules filed with the Public Utilities Commission of Ohio? A. Yes. Since 1911, the Company has filed rates applicable to general classes of consumers such as residential, general commercial, large commercial and industrial, with the Commission and they have been approved for filing in every case.

Q. By the Commission or its predecessor Commission?  
A. That is right.

Q. Is the Company subject to regulation by the Public

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1764

Utilities Commission of Ohio? A. Yes. The Company is regulated by the Public Utilities Commission of Ohio.

Q. Is it also subject to regulation as to rates by municipalities in the territory served? A. Yes. The Company is under the dual control of both the municipalities in matters of rates and the Public Utilities Commission.

For example, the recent rate reductions put into effect on July 7, 1940, were the result of negotiations between the Company and the City of Cleveland, which grew out of an investigation of the Company's business made by engineers

employed by the City during the years 1938 and '39. Following the report of the engineers for the City to the Council, the City Council for the City of Cleveland, there was passed an ordinance by the Council fixing a maximum rate to be charged for electricity in the City of Cleveland.

This was appealed by the Company to the Public Utilities Commission because the Company felt that the rates were not reasonable. As a result of the appeal by the Company, the Public Utilities Commission ordered an inventory and appraisal of the portion of the Company's property devoted to the service of the City of Cleveland, which inventory was begun by the Company under the supervision and jurisdiction of the Commission:

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Prior to adjudication of the case; however, the City passed an ordinance acceptable to the Company and the case was thereby terminated.

The Company's operations, then, in matters of rates, as illustrated by this example, are under the dual control of the Council for the City of Cleveland, in the City of Cleveland, and the corresponding councils of all municipalities in which the Company serves, which are more than eighty in number, and in addition by the Public Utilities Commission of the State which has control not only of rates, but numerous other phases of the Company's business.

1767

Q. In the first instance, then, in municipalities, the question of rates is a matter of regulation by the local munic-

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ipality? A. That is correct, under the principle described as "Home Rule" for those municipalities.

Q. For how long a period has the regulation by the Commission of the Company's rates been operative? A. The Company filed its first schedules with the Public Service Commission of Ohio in 1911, June of 1911, since regulation has been begun by the State in 1911 through the then Public Service Commission, which had succeeded the Railroad Commission of Ohio.

1769

Q. When was the present Public Utilities Commission of Ohio constituted? By that I mean, not in personnel, but

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rather in statutory basis? A. In 1913.

Q. How is the Public Utilities Commission constituted? What are its departments, and so forth? A. The Commission now consists of three commissioners, a secretary, assistant secretary, chief engineer, and a large staff of engineers, auditors and accountants.

1770

Q. Has the Commission prescribed a classification of accounts to which the Company is subject? A. The uniform classification of accounts followed by the Company was prescribed by the Commission and became effective January 1, 1915. This has been used substantially unchanged, except in detail, during these twenty-five years.

Q. Other than with respect to rates, what other phases of the Company's operations are subject to regulation by the Commission? A. I am speaking now only of electric service. A. The Company is regulated in matters of accounting by having prescribed the Uniform Classification of

Accounts by the Commission. The Company is regulated in matters of security issue by requiring authority from the Commission for the issuance of such securities.

The Company is regulated in matters of service by being under the jurisdiction of the Commission in matters involving the adequacy of service and similar phases of the service problems encountered in the electric business.

—930—

Q. Do you file with the Commission records of property additions and property retirements? A. Yes. Such records are filed with the Commission twice a year.

1772

Q. How extensive are those reports? A. These reports have been filed with the Commission as a continuance of the property record initially filed as of July 1, 1914, in very complete detail. These records show all additions and retirements of the Company's property at the exact cost at which these are recorded in the books of account of the Company.

The records are called "betterment records" so-called, and they are virtually copies of the Company's fixed asset books. For example, last year, the filing of the additions to the property accounts of the Company required six volumes totaling 2,074 pages, and in retirements required four volumes totaling 1,155 pages.

1773

Q. Does the Commission pass on acquisitions of property by the Company? A. Yes. In all cases when property has been acquired by purchase from another public utility, the Company has obtained from the Commission approval both of the purchase and approval of the value at which the properties so acquired were recorded on the fixed asset books of the Company.

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The value at which such purchased properties have been

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capitalized have been those determined by a detailed inventory and appraisal of such purchased property under order from the Public Utilities Commission.

A total of seventeen such applications for consent to purchase electric utility property from private and public utilities have been made by the Company and granted by the Commission, the first of them on January 4, 1913.

1775

Q. You have spoken of the jurisdiction of the Public Utilities Commission over the issuance of securities. How many applications for authority to issue securities have been made to the Public Utilities Commission? A. There have been a total of twenty-four such applications to issue securities granted by the Commission, the first of them December 11, 1911.

1776

Q. And the most recent application? A. The most recent application for the issuance of securities was granted on July 3, 1940, when the Company received from the Public Utilities Commission of Ohio authority for the issuance of the \$50,000,000.00 amount of 3 per cent. thirty-year bonds which were recently sold by the Company.

In connection with the issuance of these, specific requirements were laid down by the Public Utilities Commission of Ohio regarding the minimum price and the accounting procedure to be followed in amortizing the call premium and expense on the refunded issue, and the amortization of the premium received, less the expense of issue on the re-

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funding issue.

Q. Do you get authority from the Commission to capitalize expenditures? A. In order to capitalize expenditures for property additions, the Company requires authority from the Commission for such right to capitalize.

—933—

Q. Do you make annual reports to the Commission? In order to make it clear to what Commission I am referring, my questions are addressed to the Public Utilities Commission of Ohio. A. The Company makes a comprehensive annual report to the Public Utilities Commission. This report includes all additions to and retirements from fixed asset accounts during the year, notes and accounts receivable, and all items of operating and non-operating revenue and expense in accordance with the Commission's prescribed Uniform Classification of Accounts.

1778

The annual report also lists in detail the ownership and control of the Company, the names, addresses and voting power of the largest security holders and similar information. The report itemizes by accounts the plant additions to which I have referred, records the schedules of dividends paid, interest and other items of similar nature.

1779

The report further indicates contracts and agreements entered into, the amounts of electrical energy sold to or purchased from other utilities, numerous items of similar information applicable to the year's operations. The report in its entirety comprises 62 pages.

Q. Does the Company conform with the Commission's requirements with respect to service and complaints as to service? A. The Company very definitely does. Occasionally inquiries are made to the Commission as informal inquiries from customers or applicants for service regarding

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the Company's service, its rates, line extensions or other phases of its operation. Applicants or customers are free at any time to make inquiry to the Commission, or to make complaint were such complaint to be justified, in the matters of service, rates and schedule conditions.

1781

When the Commission receives such inquiry regarding rates or conditions of service these are passed on to the Company by the Commission for adjustment with the customer or applicant and reply made to the Commission. In the last five and one-half years the files of the Company indicate that there have been a total of 50 such communications from the Commission to the Company classified as inquiries on rates and service and the like.

1782

Most of these relate to line extensions in rural areas. All have been satisfactorily adjusted as between the Company and the customers and the Commission. The extent to which such inquiries are made is evidenced by an analysis of these 59 inquiries as follows: 32 related to line extensions; seven related to rate inquiries; four related to billing, over-charges or refunds; two related to the combined metering of several services; two related to the cost of a service connection; one related to a problem of installation; one related to an application for three-phase service; and, one related to information requested in regard to the Power Company's responsibility to the customer.

—935—

Q. These inquiries were called to the attention of the Company for action? A. In every case these inquiries had come first to the Commission and then had been called to the Company's attention by the Commission with the request that the matter be handled with the consumer and the Com-

mission advised of the disposition of the inquiry. This, in all cases, was done.

Q. Does the fact of the voting stock control of the Company by the North American Company restrict or obstruct the effectiveness of the regulation of the Company by the Public Utilities Commission of Ohio?

Mr. Binford: Objected to as calling for purely an opinion of the witness, upon no point in the scope of his qualification in the record here as an expert witness. It is purely a conclusion and not a matter of fact.

1784

Mr. Hamilton: From your experience as to the regulation of the Company by the Commission, can you answer that question, Mr. Lindseth?

Mr. Binford: Same objection, even if the witness answers that he is qualified and can answer the question.

The Examiner: Well, in that last question he asked him only if he could answer the question.

Mr. Binford: I don't think any answer would be competent when it calls for a personal opinion. It is not even a subject for an expert opinion.

1785

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Mr. Hamilton: I think the record shows clearly the witness' complete familiarity with the business of the Company, the scope of its operations, etc.

The Examiner: I overrule the second objection. The first one still stands.

The Witness: Will you repeat the question then, please? Read it back.

Mr. Hamilton: Off the record, please.

1786

*Colloquy*

(Discussion off the record.)

The Examiner: The matter still stands without disposition. Will you read the second question where he asked the witness if he knew?

(Question indicated was read back.)

Mr. Hamilton: My second question, Mr. Examiner, in effect restricts the original question to his knowledge.

1787

The Examiner: Now, do you know the answer to the first question that was propounded to you?

Mr. Hamilton: As restricted, as I understand it, by my second question.

The Examiner: Yes.

The Witness: As restricted to my experience?

(Second question read back.)

Mr. Binford: I will take an exception to the ruling and object to that question.

The Examiner: All right.

1788

—937—

The Witness: Will you read back the first question then, which, within my experience, I am to answer?

(Question indicated read back.)

The Witness: The answer is "Yes, I can."

The Examiner: Now, do you still object to the question as restricted by counsel since your original objection?

Mr. Binford: Yes, sir, most assuredly. There is no showing that this gentleman is a member of or has

ever been a member of the staff of the Ohio Commission or knows anything about whether its activities are affected in any way, shape, manner or form by any outside factors.

Mr. Hamilton: It is obvious, Mr. Examiner, that the answer to the question has two approaches. One is definitely the approach as an executive of the Company, and it is also obvious that any answer Mr. Lindseth may make can only be made as an executive of the Company.

1790

Mr. Binford: It is furthermore obvious, I think, Mr. Examiner, that it can call for nothing but a purely personal opinion of the witness. Even if such an opinion might be proper, which I don't admit it is, no proper predicate has been laid for it by the mere answer "Yes" to the previous question.

Mr. Hamilton: Off the record, please.

(Discussion off the record.)

The Examiner: Since we are not operating under strict rules of evidence and since this witness has exhibited quite a familiarity with the affairs of this

1791

—938—

Company in an official position, and since he says from his own experience he can answer the question, I will overrule the objection.

Mr. Binford: Exception.

Mr. Hamilton: Now, will you read back the original question which, as I understand, the witness is to be permitted to answer?

The Examiner: Yes, that is right.

1792

*Elmer L. Lindseth—By Respondents—Direct*

(Question indicated read back.)

The Witness: It does not.

*By Mr. Hamilton:*

Q. I believe you previously testified, Mr. Lindseth, that the Company has two subsidiaries. Will you state their names again, please? A. The names of these are The Power and Light Building Company, and The CEICO Company.

1793

Q. What does The Power and Light Building Company do? A. The Power and Light Building Company holds title to the 15-story office building occupied by the Cleveland Electric Illuminating Company at 75 Public Square, Cleveland.

Q. Its only business then is the ownership and maintenance of this building? A. Its only business is the ownership of this building, without the maintenance thereof. The Power and Light Building Company rents this building to the Cleveland Electric Illuminating Company, who, as tenant, operates and maintains the building.

—939—

1794

Q. Has The Power and Light Building Company any employees? A. There are no employees of The Power and Light Building Company. Its officers are officers or employees of the Cleveland Electric Illuminating Company.

Q. Why was The Power and Light Building Company organized in the first instance? A. When the building was built in 1913 and 1914 its size was such that the Cleveland Electric Illuminating Company did not expect to occupy all floors. As a matter of fact, the building was initially

*Elmer L. Lindseth—By Respondents—Direct*

1795

occupied only to the extent of six floors by the Company. The rest of the space was rented to commercial tenants.

The Cleveland Electric Illuminating Company then, were it to have held title to the building, would have been in a non-utility business by renting such space, and the subsidiary company, The Power and Light Building Company, was organized to perform such real estate and renting functions. Gradually the Cleveland Electric Illuminating Company increased its occupancy until in 1923 it took over the entire building.

1796

Charter provisions of the Cleveland Electric Illuminating Company precluded it from being in the real estate rental business of this general office building as of the time of the construction

Q. Where is this building you speak of? A. The building is located at 75 Public Square Building, Cleveland.

—940—

Q. This is the main office building of the Cleveland Electric Illuminating Company, is it? A. It is.

Q. Is it now entirely occupied by the Cleveland Electric Illuminating Company? A. It is now entirely occupied by the Cleveland Electric Illuminating Company, for which the Cleveland Electric Illuminating Company pays rent to The Power and Light Building Company in the amount of \$40,000 per year, which amount is sufficient to pay taxes, insurance, and depreciation. The Cleveland Electric Illuminating Company pays the operating expenses.

1797

Q. What are the assets of The Power and Light Building Company? A. The assets of The Power and Light Building Company are the building, itself, and the land, plus cash



1798

*Elmer L. Lindseth—By Respondents—Direct*

in an amount of \$117,000, a small amount of interest receivable, certain balances in liquidating banks' and creditors' notes in the amount of \$12,000, and about \$1,000 of prepaid accounts and deferred charges. The aggregate of such assets totals \$1,233,000 as of December 31, 1939.

1799

Q. And its income statement shows what as net income for the period ended December 31, 1939? A. Surplus, after insurance, taxes and depreciation have been paid out of rentals and miscellaneous income, in the amount of \$1,155 at December 31, 1939.

—941—

Q. That, then, is the net income figure? A. That is. I overlooked, perhaps, in the description of this building, that it is occupied in the basement and a part of the first and second floors by a direct current sub-station of the Cleveland Electric Illuminating Company, containing rotary converters, transformers, buses and the necessary switching and control equipment associated with a direct current sub-station.

1800

Q. Are the officers of The Power and Light Building Company paid any salaries? A. They are not.

Q. Why was The CEICO Company formed? A. The CEICO Company at its formation performed a meter servicing, maintenance and installation function for customers of the Company who—

Q. If you will pardon me, I think since we are referring to several companies at this point we had better identify them specifically by name. A. The services to which I have referred as having been performed by The CEICO Company

*Elmer L. Lindseth—By Respondents—Direct*

1801

were performed for customers of the Cleveland Electric Illuminating Company who owned office buildings or other buildings in which energy was purchased wholesale from the Company for sub-metering and resale to tenants.

Q. What is the business of The CEICO Company at this time? A. The CEICO Company services, repairs and reads about 3,250 sub-meters located in 42 buildings, the owners

—942—

of which have neither the personnel nor the facilities to keep these sub-meters within commercial accuracy or to perform the otherwise necessary operations in connection with the resale of current. For several years only one man has been employed and at certain times between meter-reading dates he has had some idle time. Occasionally when the type of meter to be tested or its location has required two men, arrangements have been made for a temporary helper. This service began in 1929 by request of the Building Owners Association to have made available for their convenience such an experienced person.

1802

Q. Does the Company, The CEICO Company, do any other business? A. In 1938 another subsidiary of the Cleveland Electric Illuminating Company was dissolved and its assets, principally real estate parcels, were transferred to The CEICO Company whose charter was amended to permit the purchase, lease and ownership and other functions in connection with real estate. This occurred in connection with a simplification of the corporate structure of the Company by the elimination of this wholly-owned subsidiary, The Power Construction Company, to which I have referred, at which time all of the assets of The Power Construction Com-

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1804

*Elmer L. Lindseth—By Respondents—Direct*

pany were transferred to The CEICO Company whose name was then changed from its former name, The CEICO Service Company, to its present, name, The CEICO Company.

—943—

1805

Q. What is the nature of the real estate now held by The CEICO Company? A. The real estate held by The CEICO Company comprises 20 parcels, the aggregate book value of which is \$36,600. The 20 parcels owned are held either for future expansion of the transmission system of the Company—

Q. (Interposing) —of the Cleveland Electric Illuminating Company? A. —of the Cleveland Electric Illuminating Company, or are being held for disposal. Seventeen of these 20 parcels were transferred to The CEICO Company by The Power Construction Company and three have been directly purchased by The CEICO Company to protect Cleveland Electric Illuminating Company easements thereon.

1806

Q. Why was The CEICO Company organized as a separate company? A. In accordance with its long-standing policy of not merchandising appliances or equipment, and of not doing contracting work in competition with its customers, Cleveland Electric Illuminating Company organized The CEICO Company as a subsidiary at the request of certain of its customers in order that the Company would not appear in this competitive light in its community.

Q. Are the officers of The CEICO Company part of the personnel of the Cleveland Electric Illuminating Company?

—944—

A. They are.

*Elmer L. Lindseth—By Respondents—Direct*

1807

Q. Do they receive any salaries? A. They do not.

Q. I believe you have testified that the Company has but one employee? A. The CEICO Company has one employee.

Q. What are its total assets? A. Its total assets, including the 20 parcels of real estate I have described, aggregate \$43,762 as of December 31, 1939.

Q. And its net earnings for the 12 months ended December 31, 1939? A. Its operating revenue herein described as the residue from deducting total expenses from sales, was a deficit of \$270.

1808

Q. What were its sales for 1939? A. Sales for 1939 were slightly under \$6,000, being \$5,998.

(Discussion off the record)

The Examiner: Is this a good point to recess for lunch?

Mr. Hamilton: In view of the fact that the witness has to return to Cleveland, I would like at this time to request an adjournment until Monday morning, at which time Mr. Lindseth will continue, and at which time I expect to complete his direct examination.

1809

Mr. Binford: Mr. Examiner, I have no objection to the witness being excused until Monday morning if his business in Cleveland requires his presence there, but it seems to me that to recess the hearing until

—945—

that time is unnecessary as counsel has surely known beforehand of this situation and should be able to go on with some other witness' testimony for the rest of the week.

1810

*Colloquy*

The Examiner: Well, have you a witness available, Mr. Hamilton?

Mr. Hamilton: As I have already indicated to counsel for the Commission in an off-the-record discussion, we have no witness available at this time and I would prefer to resume with Mr. Lindseth on Monday morning.

1811

Mr. Binford: I still think that the situation might have been foreseen, Mr. Examiner. The mere failure of counsel to have a witness present, although physically I guess it must result in a recess of the hearing, is no proper excuse for it.

Mr. Hamilton: I would like to state for the record that it should be well understood by this time that the production of these witnesses is really not a simple task. I mean by that, that these men are important and significant in the operations of their own companies and that we can't simply at our own whim or request, insist or demand that they appear on a minute's notice.

1812

Mr. Binford: The process of subpoena is open to Respondents as well as to the Commission.

The Examiner: I think that all things considered we should let Mr. Lindseth off until Monday morning, but I understand you have some corrections to offer to the transcript and we will come back at two o'clock for that purpose. We now stand recessed until two o'clock.

(Recessed at 12:40 o'clock)

## AFTERNOON SESSION

(The hearing was resumed at 2 o'clock p. m.)

The Examiner: The hearing will be resumed.

I would like to ask you gentlemen if you have agreed on any method by which the corrections which you want to make in the transcript can be effectuated?

Mr. Binford: I think we have.

Mr. Hamilton: We have. The corrections will be reduced to writing and a memorandum of the corrections furnished to the stenographer for incorporation into the transcript proper.

1814

The Examiner: Very well. When you have written up these corrections, the reporter will incorporate them in the record.

Turning to another matter, I think this is a good time for me to pass on the question whether the Commission in the documentary evidence which it introduced at the opening session of this hearing vouched for the accuracy of the documents introduced.

1815

Mr. Hamilton: Mr. Examiner, may I interrupt for just a moment?

The Examiner: Yes.

Mr. Hamilton: Counsel for the Commission has submitted what is in effect a reply brief to our brief. I wonder if we are to be given an opportunity to file our own brief on the question?



1816

*Colloquy*

The Examiner: Yes, you may do that, but in view of the disposition I have in the matter, maybe you would not care to do so. I will make known my ideas about the matter.

1817

At the time the evidence was offered, the observation was made by counsel for the Commission that the Commission could not vouch for the accuracy of the particular individual statements made therein. After a good deal of argument pro and con, I admitted the documentary evidence in evidence with the right in the respondent at some later date to object to its admissibility on the ground of relevancy and materiality.

1818

At the time, I thought the question of whether the Commission vouched for these documents was pretty much in issue, but on the present state of the record it seems that it is purely an academic question, and for the present I think I should overrule that objection and if at some later date in the hearing some move is made by Commission's counsel to question any of the data in these documents, you might renew your objection.

That will be my disposition of the matter for the present. I will hold these briefs, and if it becomes a real question in the case later on, I will then dispose of it.

Mr. Hamilton: May I also state, Mr. Examiner, that while copies of the Commission's brief were undoubtedly served in due course last week, they actually were not received by us until this week, and there-

fore our opportunity to review that brief has been very limited at this time, and with your permission we would like to reserve the right to file a reply brief, and if after full consideration a reply brief seems necessary.

The Examiner: You may do that.

Now, if there is nothing else to present, in view of my having excused Mr. Lindseth until Monday morning and no other witness being available, this matter is continued until 10 o'clock a. m. of Monday, August 12. 1820

(Whereupon, at 2:20 o'clock p. m. a recess was taken until Monday, August 12, 1940 at 10 o'clock a. m.)

1822

BEFORE THE

**Securities and Exchange Commission**

File No. 59-10

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IN THE MATTER

of

1823

THE NORTH AMERICAN COMPANY, *et al.*

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Hearing Room 1102-A,  
Securities and Exchange Commis-  
sion Building,  
Monday, August 12, 1940,  
Washington, D. C.

1824

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Met, pursuant to recess, at 10 o'clock a. m.Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

(As heretofore noted.)

## PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon ELMER L. LINDSETH resumed the stand and testified further as follows:

*Direct Examination by Mr. Hamilton (Continued):*

Q. Mr. Lindseth, does the Cleveland Electric Illuminating Company conduct a steam business in addition to its electric utility business? A. Yes, it does. 1826

Q. And can you give us approximately for 1939 the relation of gross revenue from steam as compared with gross revenue from electric service? A. In 1939 the gross revenue received from steam sold was about \$1,350,000.

This is slightly less than 5 per cent. of the aggregate gross revenue received by the Company from both the electric and the steam business. The number of customers served is about 600.

Q. These are steam customers? A. Steam customers.

Q. Is the steam business necessary to the conduct of the electric business? A. Yes, it is. In the generation of electric energy in the district in which the Company serves coal is 1827

—951—

the economically available fuel to be burned under boilers from which the steam may be used either for heating or for the generation of electricity or both. In the event that steam is not available to consumers in downtown Cleveland for heating the economics of the situation suggests that there be explored the possibilities of generating the electric needs for the building as well as the generation of the steam needs.

1828

*Elmer L. Lindseth—By Respondents—Direct*

This is a calculation requiring some considerable skill and experience and not infrequently consumers making such off-hand calculations will be too optimistic about the attractiveness of the free power available from making their own steam and electric energy.

1829

When steam is required and not able to be purchased there is necessary for the service of the building the installation of a boiler plant, coal bunkers and stacks. There is necessary to be employed the help required for the attendance of the boilers, the maintenance thereon, and often the incremental cost of adding an electric generator with whatever attendance is computed, plus the maintenance thereon, is too inadequately considered by the customer.

Clear thinking is required. The Company, however, by virtue of furnishing both steam and electricity to these consumers, has been able to demonstrate in virtually every case the economy of purchasing both the steam and the electricity from the Company.

1830

The number of establishments in the area served with steam and electricity which generate their own electricity or

—952—

a part thereof, is only four, and of these four which generate all or part of their needs only one generates all its needs and this is the Federal Reserve Bank in downtown Cleveland where particular rules requiring complete independence of supply of service made it necessary to generate the power requirements within the building.

Of the three other establishments which generate part of their electric needs one has need for processed steam but buys the electricity in the summertime and at night. Two others

buy electricity in the summertime and generate their own in the winter.

Based on the experience of the Company it may then be said that the operation of the steam utility is invaluable to the electric utility in enabling the electric utility to sell its electric energy to all of its prospective customers or virtually all of its prospective customers. Definite losses in economy of the electric system would result were the steam utility not a part of its operations.

Q. How long have you been in the steam business? A. 1832 Since 1906.

Q. Are all your steam customers also electric customers?

A. Yes, they are.

Q. I believe you have testified that through promotional programs and through the natural growth of the business the

—953—

presence of isolated generating plants has been eliminated during the course of years in large measure.

Q. That has been true, has it, both as to plants which have produced electricity and as to plants which have produced steam for consumption of the owner on its premises?

1833

A. Yes, that, too, is true. For example, in the area in which the Company supplies steam for heating there are about 17 buildings which operate their own heating plants. Only six of these are of a size greater than two million cubic feet of building volume and all of such buildings buy their total electric requirements.

Three of these buildings have use for large quantities of processed steam, that is steam for use other than heating purposes, in some cases at a pressure higher than is able to be purchased from the Company requiring the need of



1834

*Elmer L. Lindseth—By Respondents—Direct*

a boiler plants to furnish the processed steam from which the steam required for the heating is an incremental product.

Q. Has the elimination of isolated steam heating plants been beneficial to the community? A. Yes. Three principal benefits accrue to the community from elimination of numerous isolated steam heating plants.

1835

For example, the coal economically available to the Cleveland market is generally considered to be a low grade fuel, certainly that fuel which is economically able to be utilized in an industrial type of heating plant. Atmospheric pollution in a large industrial community is a serious problem.

—954—

The presence of the 600 or almost 600 heating plants which are the alternative to the Company supplying heat and steam for sale to its present 600 customers, would create a very serious atmospheric pollution problem in downtown Cleveland, in the area served by the Company's steam heat plants.

1836

The discharge from these numerous small plants which would be inherently of low efficiency and inherently of such design and restrictions as to not provide for modern dust and smoke eliminating apparatus, the pollution resulting from these plants would be substantial. The alternative, namely the burning of the required fuel in the plants of the Company, in large boilers efficiently operated and designed for the elimination of smoke and dust, results in a vastly improved atmospheric condition.

Secondly, Cleveland, in common with other large cities, is faced with a problem of substantial traffic congestion. The elimination of the trucks required for the delivery of fuel, the removal of ashes and other incidental operations to a

large number of isolated heating plants is a substantial benefit to the community.

Third, the reduction in the fire hazard resulting from the elimination of a large number of boiler plants in cramped quarters, in basements and sub-basements of buildings, with stacks going through those buildings, is a real and tangible benefit.

—954-A—

Q. Will you describe further the service area in Cleveland served by steam? A. Referring again to Exhibit 21, the area served by the Company's steam heating division is a compact downtown area of about 9/10 of a square mile. The portion of the map shown as the center of Cleveland and suburbs in which are located the general office building of the Company indicated as point PS, the Canal Road plant indicated by the symbol CN, the Bolivar Road sub-station indicated as BV, the Dodge sub-station indicated as DG, these are in the area served by steam heating.

1838

The scale of this map is about one-third of an inch per mile so that the area served by the Company's steam heating facilities may be considered an area about one-third of an inch square, circumscribing the four points which I have mentioned. This is downtown Cleveland. It is exclusively a business district and there are but a few streets in the eastern portion of the district in which service is not available. With the few exceptions which I have previously described all buildings in the area buy steam from the Company.

1839

There is one further qualification. Certain of these small electric utilities which are developments of real estate companies such as the Bradley Light, Heat and Power Company,

1840

*Elmer L. Lindseth—By Respondents—Direct*

serving a number of electric customers largely in its own buildings, does serve its own steam customers in similar fashion.

Q. What are the points at which steam is manufactured?

—955—

for sale? A. The Company has two steam plants, one indicated on the map as Canal Road plant with the symbol CN, and a second at the opposite end of the system, the northern portion of it, the East 20th Street plant.

1841

Q. How large an investment is represented by this plant?

A. The two generating plants of themselves aggregate a little less than \$4,000,000, \$3,700,000.

Q. Do you know the number of men employed in these generating plants? A. The number is about 120 during the heating season, and during the summer when the heating load is necessarily low the number is about 110.

Q. Isn't your Canal Road plant also used for generation of direct current? A. Yes, it is. The Canal Road plant was the first main generating plant built by the Company and it was from the Canal Road plant that the first steam distribution lines were constructed. This plant has now been substantially reduced in its electric generating capacity and no longer has the prominence that it had a number of years ago, but as a part of the generation of steam there is associated the generation of electric energy, the steam first going through the electric generator, thence being exhausted to the steam heating system for distribution to consumers.

1842

—956—

Q. So that this plant began as an electric generating plant and was developed as a steam heating plant as well.

A. Yes, in 1906 the Company built the first steam heating

line from the Canal Road plant delivering live steam to a neighboring building. During this period the demands on the plant for electric power were very substantial, in fact so substantial that there was virtually no expansion in the steam heating business at all.

By 1910 the Canal Road plant had reached its ultimate capacity of electric generating equipment and shortly after the Lake Shore plant was built. The construction of the Lake Shore plant relieved the Canal Road plant of a substantial amount of electrical load, releasing thereby steam capacity which could be utilized for steam heating business and from that time on the steam heating business grew very rapidly, taking its output from the Canal Road plant.

1844

Q. What is the steam send-out from Canal Road? A. The aggregate send-out last year from both the East 20th Street and the Canal Road plants was 2,570,000,000 pounds of steam. I don't believe I have a breakdown of this as between the two plants.

Q. Isn't it true that in the economical distribution of steam for either purpose, heating or other purpose, that the distribution can only be for a short distance from the steam generating plant proper? A. Yes; that is true from two

1845

—957—

points of view. One is the economics of the situation which requires that fixed charges be kept to a reasonable minimum, thereby precluding long distance transmission and distribution, and secondly is the loss angle, since steam being transmitted long distances loses substantial amounts of heat energy through radiation outward from the conduits and tunnels.

1846

*Elmer L. Lindseth—By Respondents—Direct*

Compact high load density areas are virtually the only areas which lend themselves on any large scale to central heating and distribution of steam from central plants.

The steam distribution system of the Company is in part one of high pressure distribution and in part one of low pressure distribution. From the Canal Road plant steam is served to certain portions of the system at high pressure, about 150 pounds per square inch.

1847 The steam so sent out of the plant is used in a number of buildings in the so-called Terminal area, including the Federal Post Office, one hotel, a department store, a number of office buildings, and a railroad terminal. The group uses about 22 per cent. of the entire steam output from the steam heating department. The rest of the area is served at low pressure and the send-out from the Canal Road plant is from 8 to 18 pounds per square inch.

The output from the East 20th Street plant is at somewhat a variable pressure but generally speaking it is high pressure steam in the range from 130 to about 150 pounds

—958—

1848 per square inch.

Q. You spoke of the second steam generating plant at East 20th Street. Will you describe that plant? A. This plant was built in 1924 when the steam requirements on the Canal Road plant had risen to such a value as to require additional plant capacity. The plant was put into operation in 1925 and is located about three-quarters of a mile east of the center of the city at the extreme northeast portion of the steam heating distribution system, and is built exclusively as a steam heating plant.

The plant comprises six boilers and generates steam at about 175 pounds pressure. Of these six boilers four have

a capacity of about 130,000 pounds per hour and two have a capacity of about 150,000 pounds of steam per hour. The plant is pulverized coal fired.

Q. Is the plant located by symbol on Exhibit No. 21?

A. It is not. This map shows the electric facilities and does not include the second of those plants at East 20th Street. It would be located immediately above the point indicated DG near the shore of Lake Erie.

Q. Is the present steam heating system adequate for the demands placed upon it? A. Yes, it is. The steam heating load has not grown at a rate at all comparable with the electric load.

1850

For example, the peak load required to be carried in 1939 was 1,045,000 pounds per hour. This was experienced

—959—

during the winter of '38 and '39. The peak load in 1940 to date, that is during the winter of '39 and '40, was 1,155,000 pounds of steam per hour on January 19, at an outside temperature of minus 11 degrees Fahrenheit.

The corresponding peak in 1934 was almost identical with the 1940 peak, namely 1,156,000 pounds of steam per hour. These peaks have been exceeded only in 1936 when the peak was about one per cent. greater, being 1,168,000 pounds of steam per hour. The peak load forecast for 1941 is 1,200,000 pounds of steam per hour.

1851

The capacity of the system or the steam load able to be carried with normal spare allowance for loss of equipment, is 1,320,000 pounds per hour, or a value 10 per cent. in excess of the expected 1941 peak. This capacity is made up of 790,000 pounds per hour capacity from the East 20th Street plant, and 675,000 pounds per hour capacity of the



1852

*Elmer L. Lindseth—By Respondents—Direct*

Canal Road plant, the aggregate of which is corrected by an amount of 145,000 pounds per hour for the loss of the largest boiler on the system at time of peak.

- Q. How is steam distributed from Canal Road and East 20th Street? A. The steam heating distribution system comprises a grid or net work of underground lines traversing virtually all of the main and side streets in the areas served. This grid system at any point may be fed from both directions thereby enabling service connections, for example, to be made to the distribution system without inconvenience to more customers than those immediately adjacent to the point on which work is required.

—960—

The grid system is equipped with a very large number of steam isolating or distribution valves so that by proper operation of these valves individual areas may be isolated for maintenance, repair or construction without the requirement that a substantial number of customers be affected thereby.

- Two standards of construction are in use, one the so-called low pressure section where designed pressures are 30 pounds per square inch, and a second section in which design pressures are 250 pounds—design standards are 250 pounds.

Q. Does the demand of the customer determine the pressure which he takes, whether high pressure or low pressure? A. No, that is not the controlling factor. The controlling factors are geographical rather than character or type of load and in the areas served by the low pressure portion of the system, high pressure steam is not available for distribution or purchase. The high pressure area for service, at least so far as controls the purchase and sale of the steam

at high pressure, is adjacent to the Canal Road plant. That is limited high pressure area.

Q. How many feeders are there running from each of the two generating plants? A. From East 20th Street there

—961—

are two main lines, the feeding and distribution grid, and from Canal Road plant four such lines, one normally operated high pressure and three normally operated low pressure although one of the latter group may be operated high pressure.

1856

Q. Functionally how is the steam heating business conducted as far as personnel of the Company is concerned?

A. In general the supervisory personnel of the steam heating department is the personnel which gives a major portion of its time to the electric business. For example, the superintendent of power of the Company who is in charge of the operation of the Company's electrical generating plants, is similarly in charge of the steam heating plants.

The production department which is responsible for the efficiency of operation, economy calculations, studies of allocation of load, forecasting of loads and the like—this department, too, is a department of the power division of the Company but extends its facilities to the steam heating department as well.

1857

The underground division which constructs and maintains the underground facilities of the steam heating business, likewise is charged with the responsibility for construction and operation of the underground electric lines of the Company.

There is, however, an exclusively steam heating department consisting of a superintendent and a few men, less

1838

*Elmer L. Lindseth—By Respondents—Direct*

than a dozen, which department does contact the steam heating consumers, handles the problem of operation, meter

—962—

reading and similar problems with the steam heating consumers. This department, however, is a division of the Company's service department under the assistant general manager in charge of that department, the major functions of which are electric.

1859

Q. And that small group of men of which you have spoken is the only collection of personnel, or are the only individuals whose work is exclusively that of devoting themselves to the steam business, is that right? A. Well, I would like to add one qualification to that, namely that in the East 20th Street heating plant all of the employees, although they are subordinate to the superintendent of power who is charged with the responsibility of the electric generation for the system, are wholly engaged in making steam for distribution from the steam heating system, so that there are in the two steam heating plants more than 100 employees who devote substantially all of their efforts to making steam for the steam heating division, although the superintendent of power is in charge of both such plants.

1860

Q. The superintendent of power being an electrical employee? A. Yes.

Q. Now, how do you forecast steam load or scheduled steam load? A. The anticipation of what the steam requirements will be one day or a week or a month in the future is a problem that has a vital bearing on the economy with

—963—

which the system operates. Likewise it has a substantial bearing on the adequacy of service which will be rendered

by the Company because if the demands for steam are in excess of the capacity provided there will be less than enough steam to go around and general dissatisfaction would result.

On the other hand, if the demands for steam are substantially less than the amount of capacity provided this excess capacity results in loss of economy. Therefore, the forecasting and the accurate forecasting of expected steam loads is vital to the economical operation of the system. This forecasting is done a year in advance of the actual load being experienced. For example, during this month there is prepared a forecast curve of the load which will be experienced next winter on the steam heating system for all temperatures experienced. 1862

Based on this curve the operating engineer in charge of the steam heating distribution system at the Canal Road plant, makes short range forecasts of the expected temperature and other weather conditions affecting load, principally wind. Each night his engineer, through the United States Weather Bureau reports and radio reports received from the airport weather stations, forecasts the expected temperature for the following morning. 1863

Based on this forecast of temperature the number of boilers to be put on the line is then determined, the number for each of the plants is established and this is the capacity

—964—

for the day's load. Because of the substantial amount of experience that these people have now had in forecasting load and the experience which the engineers have obtained in providing these curves of expected load, it is very unusual for the steam load to deviate from the capacity provided for

1864

*Elmer L. Lindseth—By Respondents—Direct*

by much more than a few per cent. The number of days when the temperature is actually more than two degrees different from the forecast temperature is very small. The accuracy of this forecasting has been developed to a high order.

Q. And whose is the function of making these forecasts?

1865

A. The short range forecast, temperature expected the following day, is the duty of the engineer in charge of the Canal Road plant who acts as the load dispatcher for the steam heating system.

The long range forecasts, namely the load which is expected to be experienced next winter for a given temperature, for example at zero degrees Fahrenheit, that task is the job of the production engineering department to make the long range forecasts.

Q. And is the production engineering department an electrical department? A. Essentially so. It does have in each of the steam heating plants a single man, a member of its department.

1866

Q. And whose is the function of constructing and repairing lines and other steam properties?

The Witness: Will you repeat that question?

—965—

(Pending question read back.)

The Witness: Well, the function of constructing and repairing the lines to the extent that they are the underground distribution lines, that is the duty of the underground department of the Company. Other steam properties, however, such as these steam heating plants, these are built on contract by a construc-

*Elmer L. Lindseth—By Respondents—Direct*

1867

tion firm. Only the distribution and transmission facilities of the Company are built with its own personnel.

Q. The underground department is an electrical department? A. Yes, it is, primarily so.

Q. How are such things as accounting matters and billing for steam service handled? A. The general accounting department of the Company handles the general accounting for the steam heating department as well. The consumers accounting department of the Company handles the billing for the steam heating department as well. Budgeting, cost control, construction job orders, preparation of income statements and fixed asset accounting for the steam heating division are handled by the Company's general accounting, budgeting and control departments which are in charge of the accounting for the electrical business of the Company as well.

1868

Q. And how about the task of testing equipment, how is that handled? A. The testing of equipment is handled by the Company's production department which is a division of the power department under the superintendent of power,

1869

—966—

acting through the production engineer.

Q. If your steam business were operated separately would that fact result in increased costs in operation? A. Yes, it very definitely would, because much of the technical and skilled personnel now used by the steam heating department is used but a small fraction of its time in that service. That is, the salaries of the production engineer and the superintendent of power are allocated only in small fraction to



1870

*Elmer L. Lindseth—By Respondents—Direct*

the steam heating division, being primarily required for the electrical division. Laboratory facilities similarly are used only to a very limited extent and are available on an allocated cost basis to the steam heating department.

Q. Does the Company do any business other than its electrical utility business and its steam business? A. No, it does not.

Q. Are its electric business and its steam heating business confined to the territory shown on Respondents' Exhibit No. 21? A. Yes, they are.

Q. Does any distribution or transmission line of the Company cross state lines? A. No, it does not.

Q. Does the Company transmit or distribute electric energy across state lines? A. It does not.

—967—

Q. Does the Company purchase any electric energy which has been generated outside of Ohio? A. Generally speaking, no, but only to the extent that energy might be purchased from a neighboring utility who might indirectly have obtained some such energy from a very obscure and remote source, would it be possible at all for the Company to ever obtain such energy.

Since the neighboring utility, however, purchases energy from the Company but does not sell, the Company therefore does not buy energy except incidentally as such energy might be reversed in its flow on the lines and it could unwittingly take energy from another utility. The source of such energy from the other utility, since the quantities involved are so small, would have been generated in Ohio.

Q. Do the two subsidiaries of the Company, Power and Light Building Company and the CEICO Company, do any

business other than that to which you previously testified?

A. None.

Q. Are the businesses of those two companies, Power and Light Building Company and the CEICO Company, confined exclusively to the territory shown on Exhibit No. 21, Respondents' Exhibit No. 21? A. They are.

Q. None of their business is done outside of the state of Ohio? A. None is.

—968—

Q. Are you familiar with the participation of Cleveland Electric Illuminating Company in various North American System Inter-Company committees? A. Yes, I am.

1874

(Discussion off the record.)

Mr. Hamilton: Will you read the last question and answer?

(The preceding question and answer were read.)

*By Mr. Hamilton:*

Q. What are those committees? A. The Station Advisory Operating Company, the Inter-Company Electrical Committee, the Accounting Committee, the Purchasing Agents Committee, from time to time a Sales Committee, and numerous less formal contacts.

1875

Q. Does the Cleveland Company receive any benefits from its contacts with these committees? A. Yes, it very definitely does. It receives these benefits from the frank and authoritative interchange of information, including confidential data which would not be revealed elsewhere by the Company.

1876

*Elmer L. Lindseth—By Respondents—Direct*

For example, I was in charge of an inventory and appraisal of the Company's properties in 1939 and 1940 and required certain information from other utilities which I felt would be helpful to me, having to do with certain phases of underground subway data. Because the volume of effort required to furnish the necessary information was substan-

—969—

1877

tial I felt and others in the Company with whom I conferred similarly felt that we were justified in asking only the member companies of the System represented on the Inter-Company Electrical Committee for this information.

I requested the Company's representative on that committee, the Company's electrical engineer, to obtain these data for me, which he did. The Company obtained such information from no other company, feeling that it could not ask another utility for information of this confidential nature, nor for information requiring such a substantial volume of work for its preparation.

1878

Q. Does the participation of representatives of the Company on these committees contribute to their fund of information? Does it have a generally broadening effect on personnel? A. Yes, the Company feels that the benefits derived from its participation in Inter-Company Committee work goes farther than the specific information obtained but goes to the general broadening influence on the particular Company representatives and others in the Company who from time to time attend such meetings.

For example, while never a representative of the Company on the Inter-Company Committees, I have benefitted very materially from the Company's representation on those committees by my having been in attendance at meetings

*Elmer L. Lindseth—By Respondents—Direct*

1879

for the handling of specific problems in which I was concerned in my duties.

—970—

In addition to the special information exchanged and these broadening influences on the personnel, there is a substantial amount of regularly compiled data on operating and design problems which has proved of substantial benefit to the Company.

Such routine data are, for example, circulated in connection with the power generation costs and performance of the major power plants of the companies represented. Such data as the fuel economy, the B. t. u. per kilowatt hour, are reported routinely each month. Such performance is reported not only on an actual basis which was the experience of the Company, but it is also reported on a standard basis, that is a theoretical basis of efficiency at which the plant should have operated.

1880

The difference between the actual operation and the standard operation is explained in the reports. There are similarly reported such factors involved in power generation as machine-use factor, the distribution of B. t. u. or heat energy among the various phases of the generation of power, and in addition to these factors there is routinely reported the comparative expense of generation of power segregated as to boiler room operation, boiler room maintenance, boiler room maintenance materials, tools and supplies, similar factors for the turbine room, and numerous other data of value in comparing the excellence of performance of the several plants.

1881

Now, since the gauge of thermal performance of a plant is

—971—

1882

*Elmer L. Lindseth—By Respondents—Direct*

in terms of heat units, the source of which is in the fuel, it becomes extremely vital to an accurate comparison of results that the fuel laboratories of the several companies maintain rigorous control of their analytical procedures. In order to achieve this rigorous control each month, in rotative order of the companies, there is sent out representative plant coal samples for analysis by the laboratories of other companies and at periodic intervals for check by the United States Bureau of Mines. The results of these analyses are tabulated in a comparative statement for the Committee and the procedure provides a check not only on the technique of the individual laboratories, but as an indication of the accuracy of the thermal performance reports of the power plants.

1883

In the case of new plant design or construction tentative plans and major decisions are submitted to the Committee for review and discussion, and in the consideration of these matters the combined experience of all companies is contributed.

1884

Simplicity of design, reliability of operation, economy of operation, economy of investment, all these have been achieved on the Cleveland system in part, at least, because of the exchange of information made available through these committees. The activity goes farther than comparing actual performance and actual design of existing plants.

For example, four or five years ago when there was a very substantial revival of interest in Diesel engines, a consider-

—972—

able sales problem appeared from a competitive angle because of lack of adequate information as to the true costs of construction and operation of Diesel engine plants, especially in small sizes for isolated use. As the production engi-

neer for the Company I, personally, made a comprehensive study of Diesel power generation, its initial construction cost and its operating expense, which information was prepared in the form of a report for circulation to the member companies on the committee.

Q. Which committee is this? A. The Station Advisory Operating Committee.

At various times specialists other than the Company's representatives on the Committee attend these meetings for special studies. For example, at a meeting of the committee held in St. Louis about 1933, a consulting chemist was retained for discussion of a highly technical phase of boiler feed water chemistry and the embrittlement of boilers.

1886

I was at that time in charge of the chemical treatment of boiler feed water and the chemical laboratories for the control of this treatment.

I attended this meeting in St. Louis for consultation with Professor Straub of the University of Illinois who was an outstanding expert in this field.

A third phase of benefits resulting to the Company from participation in activities of this kind is the making available to all member companies of research and experimental work undertaken or developed at one of the companies. For

1887

—973—

example, a comprehensive report on corrosion in the heating system, particularly on consumer's premises, was made available to the Cleveland Company, Cleveland Electric Illuminating Company from the Wisconsin Electric Power Company several years ago, based on which report very substantial improvement in operations was made possible on the Cleveland System.



1888

*Elmer L. Lindseth—By Respondents—Direct*

Frequent inspection trips are made by these committees in the plants of the utilities of the other companies represented on those committees. Corresponding data from the Company's participation in the 'Inter-Company Electrical Committee covers similar routine and periodic reports on the performance of electrical equipment among the member companies.

1889

For example, there are prepared and circulated at regular intervals growth statistics of use to the companies in forecasting load growth, performance statistics on numerous phases of the Company's apparatus performance such as frequency of circuit trip-outs on transmission and distribution circuits of all voltages, both self-clearing and non-self-clearing, transformer failures, wood pole failures, the frequency with which distribution wires are down, usually expressed as the average number of such cases per year, per 100 miles, cable failures by voltages, and other similar information.

Annual data are likewise circulated on electrical losses on the system, the efficiency of transmission, transformation,

—974—

1890

distribution and conversion. These data are prepared on an annual basis.

In addition to the circulation of data and the discussion phases of these meetings, inspection trips are frequently made to observe new system installations and a number of cooperative investigations or objectives have been studied by either the committee collectively or individuals thereon.

These objectives were assigned to different member companies for study and analysis, and the results made available to the committee representatives. Some of the objective studies which have proved of value to the Cleveland Company have related to the proper voltage to be used for alternating

current distribution, the size of load to be taken on the system at sub-transmission voltages, the economies of cable salvaging, the economies in repair of distribution transformers, the study of the most economical size and type of D. C. feeder cable for Edison systems, studies of when are automatic alternating current sub-stations justified, and numerous other investigations of a similar character.

In addition to these formal objective studies there is a very substantial amount of interchange of information by correspondence between meetings, which information is usually circulated to all members of the committee, even though in specific response to a request from but one company.

1892

Very substantial benefit has been achieved by frank dis-

—975—

cussion and free interchange of information on potential hazards in generating plants. For example, in 1925 while the Avon plant of the Cleveland Electric Illuminating Company was being constructed a major shut-down of several hours' duration occurred at one of the power plants of the Union Electric Company of Missouri. The Cleveland Company's electrical engineer, as soon as word was received of the failure, was dispatched to the scene of the trouble and it developed that the cause of the shut-down was from a certain characteristic of design which resulted in the failure, not only of a single pole of a circuit breaker element but by passage of the gas and smoke to other parts of the switch house structure. The initial failure was communicated to other equipment and resulted in the failure as well of the disconnect associated with the oil circuit breaker.

1893

Based on the experience revealed in this major case of trouble the design of the Avon power plant was materially

1894

*Elmer L. Lindseth—By Respondents—Direct*

altered to preclude the possibility of similar failure there resulting from the same causes as had prevailed in the St. Louis failure.

In the interchange of pertinent information on advertising and promotional campaigns, data are circulated between the member companies for the use of the Sales and Advertising departments. For example, in the interchange of such information there has been obtained by the Cleveland Company, from others, data of value in its promotional programs for commercial, for industrial, and for residential sales.

1895

—976—

Transportation is a very important industry as a consumer of electric energy. The Milwaukee Company, because of its close contact with its Traction Company, has been able to furnish to the Cleveland Company information of substantial value on the economies of trolley bus operation, electric street car operation, which has been helpful to the Cleveland Company in selling its electric energy for street railway use.

1896

Similar information has been obtained from the Potomac Electric Power Company in the financing of electrical appliances, the details of range promotion. The Company has obtained from Union Electric Company of Missouri assistance to our sales engineers in the promotion of air conditioning; for example, since air conditioning in St. Louis was developed at a substantially earlier date than in Cleveland.

There is likewise an exchange or circulation of advance proofs or copies of much of the advertising and sales promotion material and the Cleveland Company scans such material for ideas and ideas applicable to the Cleveland market have been adapted to Cleveland's needs. The material originating in Cleveland has likewise been sent to other com-

panies. This material comprises plan books, direct mail booklets, folders, outdoor display copy, store and window displays, radio programs, newspaper campaigns and similar information.

Q. You have spoken of the interchange of data and reports between companies' members of these committees; is that interchange of benefit to the Cleveland Electrical Illuminating Company? A. It very definitely is.

—977—

Q. It gives you a comparative idea of performance records of other large utilities, is that right? A. In a manner which would not be available except through committee representation of this character, because the volume of such information required is substantial, much of it is confidential, and we would not, as a company, feel free to submit such information on such basis, were it not through the committee on which we are represented.

Mr. Hamilton: Off the record?

The Examiner: Yes.

(Discussion off the record.)

Mr. Hamilton: Mr. Examiner.

The Examiner: Do you want this on the record?

Mr. Hamilton: Yes, if I may.

The Examiner: All right.

Mr. Hamilton: This concludes my direct examination at this time, of Mr. Lindseth.

Mr. Browning—my senior in this proceedings—has been laid up with an attack of influenza, and has been in bed for the past few days.

The Examiner: I am sorry to hear that.

1900

*Colloquy*

Mr. Hamilton: I anticipate that he will be available down here tomorrow evening; subject to acquiescence from the counsel for the Commission. I would like to suggest that the next step in the proceedings be the cross examination of Mr. Lindseth, at the counsel's convenience.

—978—

1901

As soon as Mr. Browning is physically able to go on, he expects to take up the direct examination of the next witness and, as I say, I anticipate he would be available tomorrow evening or Wednesday morning.

In any case, he will be ready to start on Wednesday morning, with direct examination. Therefore, the cross examination could fit in at any time, at Mr. Binford's convenience, between now and then.

Mr. Binford: Under those circumstances, Mr. Examiner, I would suggest, if it is agreeable to the Examiner, and to counsel, that, unless it is unduly inconveniencing the witness to stay over, that the cross examination of Mr. Lindseth be set for tomorrow morning at ten o'clock.

1902

Mr. Hamilton: I am sure that is convenient for Mr. Lindseth.

The Examiner: Very well. In view of that situation, we will recess this matter until ten o'clock tomorrow morning, for cross-examination of Mr. Lindseth.

(Whereupon, at 11:20 a. m., August 12, 1940, the hearing was recessed until 10:00 a. m. the following day.)

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1903

BEFORE THE

**Securities and Exchange Commission**

File No. 59-10

IN THE MATTER

of

1904

THE NORTH AMERICAN COMPANY, *et al.*

Hearing Room 1102-A,  
Securities and Exchange Commis-  
sion Building,  
Tuesday, August 13, 1940,  
Washington, D. C.

1905

Met, pursuant to recess, at 10 o'clock a. m.

Before: W. W. SWIFT, *Trial Examiner.*

Appearances:

(As heretofore noted.)



1906

*Elmer L. Lindseth—By Respondents—Cross*

## PROCEEDINGS

The Examiner: The hearing will come to order.

Whereupon ELMER L. LINDSETH resumed the stand and testified further as follows:

*Cross Examination by Mr. Binford:*

1907

Q. You have been with the Cleveland Electric Illuminating Company since 1926, did you testify? A. That is right.

The Examiner: This is the start of cross-examination, Mr. Reporter.

*By Mr. Binford:*

1908

Q. For how long have you been technical assistant to the president of that corporation? A. Well, the precise date of appointment is, I think, not an established date, for the reason that I had been performing the duties for a substantial time, which I am now performing, and no one prior to me had ever been technical assistant to the president.

At a time when we were revising the organization diagram of the Company, in the early part of 1940, we were faced with the problem of defining my duties for the diagram, and I was assigned the title of technical assistant to the president. The office that I occupied at that time I had been occupying since January of 1938, and the character of the

—981—

duties I had been performing at that time I had been performing since about January, 1938.

The date, I think, when I said for the record that I took the title of technical assistant to the president, was early in 1940.

Q. What was your official title prior to your assumption of your present title? A. I was assistant to the executive engineer of the Company, who was in charge of all phases of engineering—electrical engineering, mechanical engineering, civil engineering, rates, rate research, statistical work, wire relations with other utilities—I was an assistant to him, one of three such.

1910

Q. Just what was the scope of your activities, in respect to relations with other utilities, which you just mentioned?

A. The executive engineer it was who was in charge of the wire relations with other utilities. For example, the Cleveland Electric Illuminating Company owns, jointly with the Ohio Bell Telephone Company, the American Telephone and Telegraph Company, the Postal Telegraph Company, the Western Union Telegraph Company, a large number of poles. The joint wire relations department, so called, supervises the ownership and agreements, as between the Cleveland Electric Illuminating Company and other utilities.

1911

—982—

This division reports to the executive engineer, an assistant to whom I was.

Q. Those relationships involved allocation of costs among the respective companies served by equipment jointly owned, do they not? A. Those relations involved the buying and selling of interests in such poles.

For example, if the Cleveland Electric Illuminating Company owns the pole on which the Ohio Bell Telephone Com-

1912

*Elmer L. Lindseth—By Respondents—Cross*

pany would like to make an attachment, the Ohio Bell Telephone Company may buy an interest in the pole.

It would then be a jointly owned pole, under a 60-40 relationship percentagewise, or some other relationship.

Similarly, if the Ohio Bell Telephone Company owns the pole on which the Cleveland Electric Illuminating Company would desire to make an attachment, the Cleveland Electric Illuminating Company may buy an interest from the Telephone Company.

1913

The initial title very often is determined by the person who first finds it necessary to erect a pole at the point.

Q. Then maintenance is apportioned in accordance with ownership—that is to say, Maintenance cost—or would that be within the scope of your present or former activities?

The Witness: Off the record.

(Discussion off the record.)

—983—

1914

A. Maintenance of any items of property used for the Cleveland Electric Illuminating Company, for example a head guy to guy the pole at the top at the point at which the Cleveland Electric Illuminating Company's wires attach, that maintenance is a responsibility of the company owning the guy, which is the Cleveland Electric Illuminating Company.

In the event that the Telephone Company had put some wires or a cable lower down on the pole, as their property, for which they erect a guy to brace the pole at their point of contact, the responsibility for the maintenance of that guy is solely theirs.

The replacement of the pole, which is the usual item of maintenance on a pole, since the ultimate failure is due

usually to either inherent decay or accidental damage breaking the pole off, that repair is usually only possibly through complete replacement, when a new agreement is again entered into for a joint ownership of the succeeding pole.

Maintenance of attachments is by the party owning the attachments.

Q. There is no treatment of the pole, such as by creosote or any other matter, to preserve its life, is there? A. The pole is initially creosoted, as a protection against decay and attack. That is, the cost thereof is a part of the original setting of the pole. 1916

Q. But there is no succeeding treatment of the pole as —984— such prior to its retirement and replacement? A. In the case of the Cleveland Electric Illuminating Company such treatment is only in the experimental stages, where creosoting subsequent to installation is being experimented with, for the arresting of attack by termites or decay.

Q. So that no problem of fractional allocation of costs, other than the cost of the pole itself, is involved in that joint use? A. Well, I wouldn't want to categorically say that they never occur. 1917

The painting of a pole, for example, at a time subsequent to its initial setting might be such a case.

The precise handling of that I am not at the moment familiar with, but conceivably there would be elements of the character you speak of, that might require the allocation of charges by this joint wire relations division.

Q. Yesterday morning, I believe, you testified that there was but one interconnection of your system—that is to say,

1918

*Elmer L. Lindseth—By Respondents—Cross*

the Cleveland Electric Illuminating Company system—with any other system, is that correct? A. That is correct.

Q. What was the name of the company with which there is such a connection? A. The Ohio Edison Company. At an earlier point in my testimony, I refer to facilities heretofore used, now unused, for interconnection with the Ohio

—985—

1919

Public Service Company, the restoration of which to service would require twenty minutes of work on the part of the Cleveland Electric Illuminating Company to make the necessary cross connection.

Q. How long has that connection been out of use? A. About five years.

Q. And it has been in use at no time during the past five years, even for temporary intervals? A. None to my knowledge.

The Examiner: Excuse me. I believe that point is to the left of Station LR, is it not?

The Witness: Yes, that is the line—

1920

The Examiner: (Interposing) Exhibit 21.

The Witness: That is the line to which I refer.

*By Mr. Binford:*

Q. Are you familiar with the territory served by Ohio Edison Company? A. No, I am not.

Q. Do you know roughly what territory it serves? A. Well, within the definition of "roughly", yes, I do.

Q. You know it operates in Ohio, don't you? A. Yes, I know that.

Q. And at what point would you say the interconnection of the Cleveland Electric Illuminating Company system with the Ohio Edison Company system is located, with reference to Exhibit 21? A. At the point vertically below switching

—986—

station bearing the symbol PV, and known as Pleasant Valley, at the Cuyahoga-Summit county lines.

Q. Do you have any knowledge as to the usual balance—favorable or unfavorable—of the interchange of current at the point of this connection? That is to say, is more current sold by Cleveland Electric Illuminating Company to Ohio Edison Company than is received back? A. Very definitely so. The Ohio Edison Company is a customer of the Cleveland Electric Illuminating Company and takes a firm power commitment throughout the day. Any reversal of flow would be incidental and momentary, due to disruption of the normal flow of current.

1922

Q. Are you prepared to state approximately how much electric energy is sold to Ohio Edison Company by Cleveland Electric Illuminating Company at any particular recent period or within any particular recent period? A. Well, the flow is normally four thousand kilowatts to the Ohio Edison Company.

1923

Q. During what period? A. The interconnection is throughout 24 hours of the day—normally throughout 24 hours of the day.

Q. You know, do you not, that the Ohio Edison Company is part of the so-called holding company system of American Gas and Electric Company? A. No, I do not know that.

—987—



1924

*Elmer L. Lindseth—By Respondents—Cross*

Q. Do you know anything about the interconnections of the Ohio Edison Company with other companies, of your own general knowledge? A. Only from what I had seen from maps of the interconnected system and from discussion with other engineers of such interconnection.

1925

Q. Isn't it a matter of common report and common understanding that the Ohio Edison Company is a part of the American Gas and Electric Company system? A. No, that is not a matter of common knowledge in Cleveland or in Ohio.

Q. Not in the engineering fraternity? A. No. That is not known to any engineer that I am acquainted with.

Q. And you don't know that to be true? A. I know that that is not true.

Q. You know that it is not true? A. Yes.

Mr. Binford: Mr. Examiner.

The Examiner: This is off the record?

Mr. Binford: Off the record.

(Discussion off the record.)

1926

The Examiner: We will take a 15-minute recess.

—988—

(Whereupon a short recess was taken.)

The Examiner: You may proceed.

*By Mr. Binford:*

Q. I think I have been under a misapprehension, myself, in my questions in regard to the Ohio Edison Company

Do you know whether or not the Ohio Edison Company is a member of any group of companies, known as a holding company system? A. Yes.

Q. Do you know what that system is known as? A. Commonwealth and Southern.

Q. Commonwealth and Southern? A. Yes.

Q. Do you know whether or not the Ohio Edison Company has physical interconnections, by which an interchange of electric current and power takes place between the system of that company and the systems of other companies? A. I do not know whether interchange of power actually does take place, but I do know of the presence of interconnections over which the flow of power might take place.

Q. Don't you know, as a matter of fact, that there are interconnections, or successive interconnections, by which that company's system—that is to say, the Ohio Edison Company's system—is directly or indirectly connected with lines serving territory as far apart as Northern Indiana and

—989—

North Carolina?

Mr. Hamilton: Mr. Examiner, if I may interpose, this witness is not an employee of the Ohio Edison Company, and it seems to me that this is going a little far afield. I don't want to object to it if the scope of the questioning is somewhat limited, but I do feel that, if we are going to conduct an investigation into the affairs of the Ohio Edison Company, we really need another witness.

Mr. Binford: Mr. Examiner, I am going to ask an expert opinion.

The Examiner: The question was if he knew that. If he knows it, I think the question is proper. I will overrule the objection.

1930

*Elmer L. Lindseth—By Respondents—Cross*

The Witness: Will you read back the question?

(Whereupon the pending question was read by the Reporter.)

The Witness: Well, my answer again is I do not know whether Ohio Edison is directly or indirectly so connected, but I know of the presence of facilities through which it might be so connected.

1931

I am, obviously, not familiar with details of operation, but the presence of physical property can not change so quickly as can the operation thereof.

*By Mr. Binford:*

Q. You know the physical properties adapted for the transmission of electric current exist, with relation to this

—990—

company and companies over areas in various states, do you not? A. Yes, I know that.

Q. Crossing state lines? A. Yes.

Q. And you sell current to the Ohio Edison Company?

1932 A. Yes.

Q. So that the current produced by your system, in part, goes into transmission lines which are part of physically connected transmission lines crossing state lines, is that true?

The Witness: Will you read back that question?

(Whereupon the pending question was read back by the Reporter.)

The Witness: Well, again I must answer that I, of my knowledge, know nothing of the actual state

*Elmer L. Lindseth—By Respondents—Cross*

1933

of those connections, being an operating problem, but the possibility of such connections I do know of.

Q. In other words, you have never seen any meters or looked upon any other instruments which show the current of those connections? A. My position is only this, that the presence of a physical facility for the interchange of power is no evidence of the flow of such energy.

I know of the presence of such physical equipment, but I

—991— 1934

can not testify as to the direction of flow or the fact of flow.

Q. On the other hand, would you be able to state under oath that none of the energy generated in your system goes into interstate flow of electric energy? A. You want this under oath?

Q. Yes.

The Witness: Will you read back that question?

(Whereupon the pending question was read by the Reporter.)

The Witness: This question presupposes an ability to identify a unit of energy transmitted by us to a neighboring utility.

1935

Mr. Binford: I don't necessarily adopt your interpretation of the question.

The Witness: Will you repeat that? Will you read that back?

(Whereupon the last statement of Mr. Binford was read by the Reporter.)

1936

*Elmer L. Lindseth—By Respondents—Cross*

The Witness: But I have no way of answering it except in accordance with my interpretation, unless you want to interpret it for me. Will you interpret what you mean by a flow of energy?

*By Mr. Binford:*

1937

Q. Can you state definitely at this time that none of the energy generated in the Cleveland Electric Illuminating Company's system flows into the channels of interstate transmission?

—992—

If you can't definitely state that to be a fact, all I want you to do is say so. A. The amount of energy supplied by the Cleveland Electric Illuminating Company to Ohio Edison Company, under normal conditions is but a small fraction of the requirements of the City of Akron. The point of delivery is at South Akron.

The amount of such energy is but a very small fraction of the total requirements of the Ohio Edison Company in the State of Ohio.

1938

Since this point of supply from the Cleveland Electric Illuminating Company to the Ohio Edison Company is at the northwestern terminus or substantially that, of the Ohio Edison System, I believe I can say that no energy supplied by the Cleveland Electric Illuminating Company, under normal circumstances, flows in interstate commerce, but is consumed in the State of Ohio.

Q. On the same theory, I suppose you would say that, if a spring supplies water to a reservoir in the north end of a large reservoir, and a village is supplied from that reser-

voir at the same point, consuming a larger amount of water than the water supplied by the spring, that you would feel safe in saying that none of the water supplied by the spring would be found in the south end of the reservoir—is that the same type of reasoning? A. No. That is a fallacy of bad

—993—

analogy, for the reason that a spring, feeding a reservoir, might be discharged into the opposite end of that reservoir by an infinite number of routes.

For example, it may go along the north border and down the south, or it may go along the west border and—excuse me. Way back there, it is the “north border and the east” and then later on “the west border and the south”—but in the transmission of electrical energy, we are talking about a clearly defined path without alternative.

1940

The analogy might be better from the spring to the village, were there a pipe of finite capacity, and the spring discharging into the pipe a small amount of water—say one gallon per minute—but that intermediate between the spring and the village there were a take-off line removing five gallons per minute from the pipe, the analogy would then be that all of the one gallon were taken off at the five gallon take-off point.

1941

Q. There is more or less of an ebb and flow, or reversal of current occasionally in transmission lines, however, isn't there? A. In our system, only under abnormal conditions. The Ohio Edison Company is a customer and we strive, with rather precise equipment and high speed control, to insure the continuity of that supply to them at a uniform value.

—994—

It is an abnormality that results in a reversal of flow.



1942

*Elmer L. Lindseth—By Respondents—Cross*

The Examiner: Yesterday counsel for Respondent asked you if energy which your company distributed—any of it—came from outside areas, across state lines, and, as I recall your testimony, you said that, in sending out energy to your interconnection on the south, there was some possibility of return current seeping into the Cleveland Electric Illuminating Company. Is that right?

1943 A. That is right. That is this abnormality to which I now refer.

The Examiner: Now, isn't the question which Mr. Binford propounded to you a similar question, only it is approached from a different angle?

The Witness: No. I think, rather, Mr. Binford is asking about the disposition of the energy.

The Examiner: Yes.

The Witness: Rather than the source of the energy that we buy.

1944

The Examiner: Well, do you differentiate between the two questions that were asked you, one by Respondent's counsel and one by Commission's counsel? They seem to me to be of similar import.

The Witness: (Handing a document to the Examiner and indicating.)

—995—

The Examiner: Well, is there any difference in the two questions propounded to you by the two lawyers?

The Witness: Off the record a minute.

(Discussion off the record.)

The Examiner: I might ask this witness, will he explain the difference in the two questions and his answers to those questions.

The Witness: The question which I answered yesterday, in direct testimony, was this:

"Does the Company purchase any electric energy which has been generated outside of Ohio?" 1946

The answer to that question was this:

"Generally speaking, no, but only to the extent that energy might be purchased from a neighboring utility, who might indirectly have obtained some such energy from a very obscure and remote source would it be possible at all for the Company to ever obtain such energy.

"Since this neighboring utility, however, purchases energy from the Company but does not sell, the Company therefore does not buy energy, except incidentally as such energy might be reversed in its flow on the lines, and the Company unwittingly take energy from another utility. 1947

"The source of such energy from the other utility, since the quantities involved are so small, would have been generated in Ohio."

—996—

Today's question related to the disposition of energy sold by the Cleveland Electric Illuminating Company to the Ohio Edison Company—

1948

*Elmer L. Lindseth—By Respondents—Cross*

Will you read that question again?

(Whereupon the pending question was read back by the Reporter.)

The Witness: (Continuing) —and asked whether I could state that none of the energy generated in the Cleveland Electric Illuminating Company's system goes into interstate flow of electric energy.

1949

My answer to this question is that the energy supplied by the Cleveland Electric Illuminating Company to the Ohio Edison Company is delivered at South Akron.

Further than this, the energy generated within the City of Akron is inadequate to meet the requirements of Akron and vicinity, so that, from sources other than the Cleveland Electric Illuminating Company, there is also transmitted into Akron substantial amounts of energy.

1950

Based on these facts, then, it is my judgment that energy normally sold by the Cleveland Electric Illuminating Company to Akron, in the amounts which I have described, does not go into interstate flow of electric energy.

*By Mr. Binford:*

Q. Mr. Lindseth, you were present at some of the earlier sessions of the hearings in this matter, at which Mr. Lank—

—997—

an engineer of the Potomac Electric Power Company—testified, were you not? A. Yes.

*Elmer L. Lindseth—By Respondents—Cross*

1951

Q. Were you present at the time he testified relative to the several committees of representatives of operating companies within the North American holding company system? A. Well, I am not sure that I was present at all those sessions, no.

Q. You read his testimony in regard to those committees, did you not? A. No, I am not sure that I have read his testimony in regard to all those committees, no, I am not sure of that.

Q. You are not familiar with the testimony given by him with regard to those committees? A. No, I don't believe I am.

1952

Q. On direct examination, you testified at some length as to the activities of the several committees of the type indicated, which you identified in your testimony. Immediately prior to your testimony in that respect, I presume you refreshed your recollection as to the activities of those committees, is that correct?

The Witness: Will you read back that question?

(Whereupon the pending question was read back by the Reporter.)

1953

The Witness: Yes, that is correct.

—998—

*By Mr. Binford:*

Q. Some of your testimony, I presume, was from your own knowledge and recollection? A. That is correct.

Q. When did you last attend a meeting of any of these several committees which you identified? A. About 1935.

1954

*Elmer L. Lindseth—By Respondents—Cross*

Q. What was your position with the Cleveland Electric Illuminating Company at that time? A. I was production engineer.

Q. What was that committee, the meeting of which you attended in 1935? A. The Station Advisory Operating Committee.

Q. Have you ever attended a meeting of any other of the several committees which you have described? A. No, I have not.

1955

Q. You have not read over the testimony of Mr. Lank upon cross-examination, with relation to the activities of these committees? A. No, I have not.

Q. Or Mr. Thielscher, who also testified here? A. I have read the testimony of Mr. Thielscher—or parts thereof. I wouldn't vouch for having read it all.

Q. Mr. Thielscher, I believe, testified that he was a mechanical engineer in the employ of the Potomac Electric

—999—

Power Company, and as such familiar with certain activities of certain of these committees. Is that your recollection?

1956

The Witness: Will you read back that question?

(Whereupon the pending question was read back by the reporter.)

Mr. Binford: If the witness isn't certain as to the answer to that question, I would substitute this question:

*By Mr. Binford:*

Q. You know, as a matter of fact, do you not, that Mr. Thielscher is a mechanical engineer in the employ of the

Potomac Electric Power Company, in which capacity he testified here in this proceeding? A. Except that I don't know that "mechanical engineer" is his title, but I do know that he represents the Potomac Electric Power Company on the Station Advisory Operating committee.

Q. I was speaking of his profession rather than his title.

Do you agree with Mr. Thielscher's view that, even were the stock ownership of the several companies represented in the Station Advisory Operating Committee wholly divorced, yet the same technical benefits would accrue to the respective companies from a continuance of these committees and their activities?

1958

Mr. Hamilton: May that question be read back, please?

—1,000—

(Whereupon the pending question was read back by the reporter.)

Mr. Hamilton: Mr. Examiner, I will have to object to that question, because I don't think it correctly states Mr. Thielscher's views expressed in the testimony.

1959

Mr. Binford: I think it does.

The Examiner: Off the record.

(Discussion off the record.)

Mr. Binford: In view of Mr. Hamilton's objection, but without conceding its validity, I will add to the question to the witness:



1960

*Elmer L. Lindseth—By Respondents—Cross**By Mr. Binford:*

Q. My question presupposes that there could be a continuance of the activities of these committees and their members, among themselves, in the same manner and with the same freedom that they are carried on now.

1961

In other words, I am not asking the opinion of the witness as to whether or not, if there were no single rate stockholder holding stock in each of these companies, the arrangement would be likely to be carried on or not, but my question is directed to the point of whether, if such activities could be carried on in the absence of holding company control, if the same technical benefits would not accrue to the companies as accrue at the present time.

Mr. Hamilton: Now the question has been phrased and rephrased two or three times in counsel's last

—1,001—

statement. May I ask: Is the witness to assume that the conditions to be assumed in his expression in the first restatement are also the conditions to be assumed on the second restatement of the question?

1962

Mr. Binford: Yes, sir.

The Witness: Will you read back the last part of Mr. Binford's question, which begins, "My question is directed to whether—" and so forth?

(Whereupon the pending question was read back by the reporter.)

The Witness: Well, in spite of the desire of Commission counsel that this question be answered without regard to the premises, I don't believe that the

*Elmer L. Lindseth—By Respondents—Cross*

1963

question can be so answered, because the premises are impossible; being impossible the question is moot.

—1,002—

*By Mr. Binford:*

Q. Would the sale by the North American Company of all of its stock interests in Potomac Electric Power Company affect the validity and the usefulness to your company, the Cleveland Electric Illuminating Company, of any fuel analyses made in the laboratories of Potomac Electric Power Company of fuel for your company? A. Again we have a hypothetical question asking for me to express an opinion about a set of circumstances which have not occurred and are purely in the realm of speculation.

1964

Q. Precisely. A. Do you want me to speculate?

Q. I want you to speculate in the light of your expert knowledge and give your expert opinion on this particular question. A. A number of questions here have been premised on a hypothetical situation which would prevail were there to be certain very major readjustments in the ownership of these properties. It is my opinion that were these hypotheses about which Commission's counsel has asked me to speculate to take place, that there would not be the same community of interest existing among these several companies as now exists by virtue of this community of ownership.

1965

That is, the work of these committees is a substantial work. The getting out of these reports is tedious. The benefits are substantial, yet they are not without a real sacrifice

—1,003—

in expense and effort on the part of the companies.

Specifically he has asked me in the matter of the analysis of coal. This requires the preparation of samples by the

1966

*Elmer L. Lindseth—By Respondents—Cross*

several companies, analyses under unusual conditions in the laboratories, some disruption of normal procedure, all of which are cheerfully tolerated when there is this community of interest and the full realization of the benefits, but under the hypothesis of Commission's counsel that this community of interest be lost then it is my judgment that there would occur a time when under the rush of other business or the stress of adversity this job just would not be done and committee work would come to the same pass that it often comes in engineering societies, in other technical committees, where the representatives on the committee say "Well, it isn't worth it. We will drop it."

1967

So, the answer specifically to Mr. Binford's question in this realm of speculation which he has asked me to explore, is that those benefits would not be continued.

Q. And you would not consider it to the interest of the several companies that they be continued? A. In my judgment it would be in the interest of the several companies to have this continuance, but I would be very reluctant to think they would be made to succeed; their value would be just as great could they succeed, but I am quite certain of my belief that they could not be made to succeed without this community of interest. The premises of these questions have been impossible.

1968

—1,004—

Q. You speak of community of interest; do you mean community of control? A. By this community of interest I refer to this situation that the advantages derived from mutual cooperation among the several members of the committee accrues to the benefit of all companies in a financial way. This is a selfish interest. This is not a desire to add

to the fund of human knowledge, per se. This is not a desire to indulge in pure science as an end in itself. This is an effort to derive substantial economies in operation by virtue of this community of interest or this unity of ownership.

Q. Now, you think that that motivation would disappear upon the part of the management and officials of these several companies if they were responsible to scattered security holders rather than to scattered security holders plus an outstandingly large holder of common stock common to all of them, is that true?

1970

The Witness: Will you now read that back?

(Pending question was read.)

The Witness: The difference in the present situation and the hypothetical situation posed by this question is this: Under the hypothetical situation there would be an earnest desire on the part of every representative to derive all the benefits he could, sure; that is only natural and human nature. The weakness of the picture lies in the extent to which those participants would be willing to, at some sacrifice in

1971

—1,005—

time and expense, contribute to the efforts of the committee knowing that the benefits therefrom were to accrue to a company disassociated in its ownership.

*By Mr. Binford:*

Q. However, under the present arrangement isn't it true that insofar as the public security holders, by which I mean the security holders other than the North American Company and the Cleveland Electric Illuminating Company are con-

1972

*Elmer L. Lindseth—By Respondents—Cross*

cerned, the Cleveland Electric Illuminating Company does expend money and the time of its experts and employees, which represents money belonging in part to these public security holders, for the benefit of the Potomac Electric Power Company in which such security holders may have no interest at all?

Mr. Hamilton: I think counsel means Cleveland Electric Illuminating Company.

Mr. Binford: Read the question.

7973

(Pending question was read.)

Mr. Binford: In that the Potomac Electric Power Company is one of the other members of this group which cooperates through committees.

Mr. Hamilton: That question is a little puzzling to me as now framed. I wonder if the stenographer would mind reading it back once more with the amendment just added.

(Pending question and amendment read back.)

—1,006—

1974

The Witness: I am of the opinion that the Cleveland Electric Illuminating Company now, and for a long time in the past, has received benefits from its inter-company committee participation in excess of the cost thereof. That is, while we have contributed substantially we have received benefits several times greater. We hope that we have contributed to this committee effort in such amount and of such quality that there has resulted benefit to the stockholders of the Potomac Electric Power Company.

*Elmer L. Lindseth—By Respondents—Cross*

1975

I am, however, not of the belief that without this mutuality of interest, this community of interest, to which I have referred, that in the long range picture we would be willing to continue the extent of these contributions. That these contributions have been of benefit to stockholders of other associated companies goes without saying almost. The Company has no reluctance for its contributions, feeling that these have been repaid many times.

1976

*By Mr. Binford:*

Q. So that if you continue to occupy your present position with Cleveland Electric Illuminating Company at a time when that company has ceased to be a part of the North American System, you would not recommend the continuance of the community activities to which you have testified?

The Witness: Will you read that question, please?

(Pending question read back.)

The Witness: That is not at all the case, nor is that a valid assumption from what I have said. I have previously testified that it would be with considerable

1977

—1,007—

reluctance that I would recommend the continuance of these committees, well realizing the benefits that we now derive therefrom and the loss which would accrue to the Company in the event those benefits were to cease, but I would be decidedly pessimistic as to the success of this activity without the guidance of a strong stockholder. With the community of interest missing, the success would be far less assured.



1978

*Elmer L. Lindseth—By Respondents—Cross*

Mr. Hamilton: Would you read that answer back again?

(Last preceding answer read back.)

*By Mr. Binford:*

1979

Q. Then, would it be a fair statement of your opinion that the managements of these several companies in the North American System are primarily guided in their expenditure of funds and in their activities, particularly in relation to the committees which we have been discussing, by the general interests of their respective largest voting stockholders throughout all its investments rather than by the interests of investors in general of the particular operating company of which that happened to be in charge?

Mr. Hamilton: I don't know as the witness has been qualified to testify as to what the management of other companies might conclude.

Mr. Binford: He is expressing an opinion as to what would happen and what they would do if certain motivation were removed. I would like him to clarify

1980

—1,008—

it.

Mr. Hamilton: I am not objecting to the question. I am merely pointing out the vagueness of the premise.

The Witness: Will the stenographer read back the question commencing, "Would it be a fair statement of your——"?

(Indicated question was read back.)

The Witness: I am answering this question from the point of view of the Cleveland Electric Illuminating Company management alone.

We, as a company, are convinced that the values derived from these committees is substantial. We are convinced that the expenditure of time and effort of the employees and other out-of-pocket expenses is repaid many times by the benefits derived. In considering the relative value of the benefits and the expense or cost thereof, we are concerned not with whether stockholder A or stockholder B benefits specifically therefrom, we are concerned with the welfare of the Company.

1982

Those of us engaged in private business develop a philosophy toward our company. It is an end in itself to be worked for. The judgment of management is very often governed by the single criterion, "Will this be good for the Company?" in determining the economics of an expenditure, not "Will it be good for stockholder A who owns a part of that company?" and not "Will it be good for stockholder B who owns a part thereof?" but rather, "Will it be good for the Company?"

—1,009—

1983

Incidentally, of course, prosperity for the Company means return for the stockholders therein. It is the position of the Company, however, which controls in a choice such as this. However, in considering the expenditure of effort by company A for the benefit of company B, when the immediate prospect in that minute effort might be an excess of expenditure by the original company in excess of benefits derived, weight must just humanly be given to such a decision if it is known that there be a mutuality or a community of interest between company B and company A.

1984

*Elmer L. Lindseth—By Respondents—Cross*

This is only a discourse into human nature. There is no engineering or philosophy of economics involved in a question such as that.

Q. You spoke, in your direct testimony, of a number of rate reductions effected by Cleveland Electric Illuminating Company to its customers as voluntary rate reductions. Were any of those rate reductions approximately contemporaneous with the expiration of a franchise in a particular community?

1985

A. No.

Q. They were truly voluntary in each case? A. As I testified in the matter of regulation in Ohio, the primary regulating power is in the City Councils under the provision of Home Rule. Some of these reductions were contemporaneous with the expiration of rate agreements or contracts with such municipality without involvement of a franchise. The rate agreement between the Company and each of the

—1,010—

cities it serves is for a fixed period, not in excess of ten years. Some of these reductions were contemporaneous with the time for renewal of such rate agreements or contracts.

1986

Q. Did any of the reductions precede by more than a few months the time at which a new agreement would have to have been reached? A. Yes, such voluntary reductions did so precede the expiration of ordinance periods. For example, the Company in 1933 made a voluntary reduction and got an extension of its existing agreement until 1939 as a result thereof, or as a corollary thereof. By 1937 at a time when the agreement had two years to run there was made a further voluntary reduction on the part of the Company in substantial amount.

*Elmer L. Lindseth—By Respondents—Cross*

1987

Q. Now, you also testified as to the reason for organization of Power and Light Building Corporation, substantially to the effect, as I recall it, that when that corporation was organized it was believed that the building to be owned by it would not be occupied wholly by Cleveland Electric Illuminating Company, but a certain portion of it would be leased or rented to others which was beyond the scope of the activities of Cleveland Electric Illuminating Company. Is that substantially correct? A. Yes, that is substantially correct.

1988

Q. But I believe you further testified that later Cleveland  
—1,011—

Electric Illuminating Company became the tenant of the entire building. A. That occurred about 1923.

Q. Since that time has Cleveland Electric Illuminating Company occupied the entire premises, that is to say to the exclusion of other tenants? A. As the sole tenants, yes.

Q. It is mere inertia that has kept the separate corporate organization of Power and Light Building Corporation? A. That might be the case, yes; ennui.

Q. But so far as you know, no useful purpose at the present time is served by the continuance of that corporation as a separate entity? A. None to my knowledge as a separate entity.

1989

Q. Is any portion of the property owned by that corporation included in the rate base of the Cleveland Electric Illuminating Company? A. Will you define what you mean by the rate base?

Q. That is included in the property which is used as a basis for the computation of the rates, or the rate schedule

1990

*Elmer L. Lindseth—By Respondents—Cross*

to be used by Cleveland Electric Illuminating Company. A. Computed by whom now?

Q. Such regulatory bodies as have jurisdiction or exercise jurisdiction over the fixing of rates. A. In the report of the engineers submitted on behalf of the Council of the

—1,012—

1991

City of Cleveland on July 17, 1939, and which was used as a basis for an ordinance introduced in the Council of the City of Cleveland to fix the maximum rates of electricity to be charged by the Cleveland Electric Illuminating Company, neither the cost nor the value of that building was included.

The rent paid by the Cleveland Electric Illuminating Company to the Power and Light Building Company in an amount of \$40,000 per year was included as a deductible operating expense in determining return, but such rent in the amount of \$40,000 is adequate only for three purposes: (A), the payment of taxes; (B), the payment of insurance; and (C), allowance for depreciation.

1992

There is no rate of return included in the \$40,000 of rent paid by the Cleveland Electric Illuminating Company to Power and Light Building Company, so that its inclusion in the determination of the rates for the City of Cleveland contemplated no return thereon, even though the book cost thereof is about of the order of \$1,100,000.

Q. No return for the ownership of the corporate stock of that company by Cleveland Electric Illuminating Company as distinguished from the physical property of the subsidiary company? A. Well, under these circumstances there are obviously no dividends to be paid on the stock which the Cleveland Electric Illuminating Company owns in the Power and Light Building Company, so that as of the year being

studied, 1938, the rent allowed by the engineers for the city  
 —1,013—  
 in fixing rates was inadequate to cover any return on the investment of the Company in Power and Light Building Company.

Q. That investment as such, though, was not given a value which was considered in the light of a capital investment? A. Not at all.

Q. If that property should be held directly by Cleveland Electric Illuminating Company without the intervention of a subsidiary corporation, do you know whether it could be considered as properly such a part of the property plant investment of the Company as to be taken into consideration in the fixing of rates? A. In my judgment it could be very properly that. It is devoted solely to utility service for the use and convenience of the customers of the Company. 1994

Q. Are you a member of engineering societies? A. I am a member of the American Society of Mechanical Engineers and the Cleveland Engineering Society.

Q. Are you active in those organizations? A. Within modest limits of what constitutes being active, I am active in the American Society of Mechanical Engineers, but not in the Cleveland Engineering Society. 1995

Q. There is some interchange of technical information among the members of such societies, is there not? A. Yes, there is.

Q. There are engineering and other technical periodicals —1,014—  
 and publications available to you in which recent developments in your field of work are treated, are there not? A. Within the limits of the definition of "recent"; "recent" as defined as shortly after the fact, very rarely before the fact.



1996

*Elmer L. Lindseth—By Respondents—Cross*

Q. Among the subjects of periodic discussion by special or standing committees within the North American System, is there included public relations?

Mr. Hamilton: What was that question?

(Pending question read back.)

1997

The Witness: Public relations for an electric utility comprises every move we make. For example, in the design of the power plant now being constructed at East 70th Street, from a point of public relations purely there is being installed a very considerable dust arresting equipment from the stacks to reduce atmospheric pollution.

There is a case where the engineer in charge of the design and construction of a power plant makes a very substantial expenditure of money on behalf of the Company for the reduction of atmospheric pollution because we feel that it is in the interest of Cleveland that that atmospheric pollution be reduced.

1998

Now, this is typical of every act which controls every thinking employee of the utility, whether he be a meter reader, whether he a trouble man, a line construction man, an underground foreman, a truck driver, an advertising man, or a publicity man.

So that the answer to the specific question, whether among the subjects for discussion is there included

—1,015—

public relations, is that the accounting committee in its discussion of bill collection policies and procedures is motivated in very large measure by public relations. The advertising department of our Company, in looking over advertising submitted by other member com-

panies for ideas, is well alert to the advantages which may be obtained therefrom to improve public relations.

Similarly our power engineers are constantly alert for means to improve public relations within their sphere. The answer to your question, then, is that every act is unquestionably analyzed consciously or subconsciously from its public relations angle.

Q. The answer to the question then, is "Yes"? If you were required to answer "Yes" or "No", your answer would be "Yes", is that right? A. That isn't a question amenable to a "Yes" or "No" answer. Public relations is not a thing which can be bandied about like a ton of coal or a load of bricks. Public relations is a philosophy of management of a company and it is a philosophy of operation of that company and that question "Do you discuss public relations?", as though it were Item IV on the agenda—"What are we going to do for public relations today?"—that question is not amenable to a "Yes" or "No" answer.

2000

Mr. Binford: No further questions. I reserve the same right with respect to this witness to recall him for examination although I intend no further exam-

2001

—1,016—

ination at length, as reserved heretofore in respect to the other witnesses.

Mr. Hamilton: And as in the case of other witnesses, Mr. Examiner, we do not concede the general reservation of the right to cross examine for the reasons and on the basis indicated previously.

The Examiner: Well, that brings up the question of who will pay the expense of this witness to bring

2002

*Colloquy*

him back. I think counsel for the Commission ought to finish his cross examination while he is here. If it occurs to him later on and he needs to recall him, then we will have to take up the question of who is going to pay the expense of bringing him back here but until that question arises we won't debate it and I won't pass on it.

2003

Mr. Hamilton: Mr. Examiner, as I have indicated previously to counsel for the Commission, Mr. Browning is still ill and I don't anticipate now that he will be able to get to Washington until Wednesday night at the earliest. I understand that counsel is willing that the testimony of the next witness be taken up on Thursday morning under the circumstances.

Mr. Binford: I agree with that. I understand that if it unfortunately develops that Mr. Browning still can't be here, that Mr. Hamilton will be ready to go ahead with the next witness at that time.

2004

Mr. Hamilton: If Mr. Browning isn't available on next Thursday I will expect to go ahead myself, but it so happens that the next witness' testimony involves

—1,017—

phases of the case which at this time I am not familiar with. However, under those circumstances I will go ahead on Thursday if Mr. Browning is not available.

The Examiner: Very well, we will continue this matter until Thursday morning at ten o'clock a. m.

(Whereupon, at 12:00 o'clock the hearing was adjourned to reconvene Thursday morning, August 15, 1940, at 10:00 a. m.)

—1,018—